

AFRICA@WAR 33:

SHOWDOWN IN WESTERN SAHARA

**VOLUME 1: AIR WARFARE OVER THE
LAST AFRICAN COLONY, 1945-1975**



Tom Cooper & Albert Grandolini

**AFRICA
@WAR** **SERIES**

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Note

In order to simplify the use of this book, all names, locations and geographic designations are as provided in *The Times World Atlas*, or other traditionally accepted major sources of reference, as of the time of described events. Arabic names are romanised and transcribed rather than transliterated. For example: the definite article al- before words starting with 'sun letters' is given as pronounced instead of simply as al- (which is the usual practice for non-Arabic speakers in most English-language literature and media). For easier understanding of ranks of French Air Force and US Navy officers cited in this book, herewith a table comparing these with ranks in the Royal Air Force (United Kingdom):

Royal Air Force (United Kingdom)	Armée de l'Air (France)	US Navy (United States of America)
Marshal of the RAF	général d'armée aérienne	Fleet Admiral
Air Chief Marshal	général de corps aérien	Admiral
Air Marshal	général de division aérienne	Vice Admiral
Air Vice Marshal	général de brigade aérienne	Rear Admiral (Upper Half)
Air Commodore	Colonel	Rear Admiral (Lower Half)
Group Captain	Lieutenant-Colonel (LtCol)	Captain
Wing Commander	Commandant	Commander
Squadron Leader	Commandant d'escadron	Lieutenant Commander
Flight Lieutenant	Capitaine	Lieutenant
Flying Officer	Lieutenant	Lieutenant Junior Grade
Pilot Officer	Sous-Lieutenant	Ensign
Chief Warrant Officer	Aspirant /Major ¹	Master Chief Petty Officer

Introduction and Acknowledgments

Time and again during the late 1970s and 1980s, a little-known conflict in the area known as West Sahara would capture the second pages of major newspapers around the World. Details were actually scarce, and from the standpoint of the average Western observer the situation appeared clear: a local leftist insurgency supported by Algeria, Libya and the Union of Soviet Socialist Republics (USSR, colloquially ‘Soviet Union’) was fighting against the Moroccan forces supported by France and the United States of America (USA). The war in West Sahara thus appeared to be another of so many ‘proxy-wars’ fought all over the world, but especially in Africa and Asia, between the ‘East’ and the ‘West’ within the context of the Cold War.

Thirty years since this conflict reached its peak, it is largely forgotten. While at least the number of authoritative publications describing its geo-political backgrounds can be counted on the fingers of two hands, there are still very few accounts about the military aspects of this war. Although the conflict in West Sahara actually superseded many of other African wars from the same period in its intensity and importance, it never attracted similar attention and thus details about specific battles and experiences of involved parties are entirely forgotten and ignored. Certainly enough, part of the reason is that this relatively bloodless war appeared uninteresting for the international media driven by sensational and spectacular images of horror and misery.

However, while unknown to most, the conflict in West Sahara is still going on: the Moroccan authorities continue the repression of the native population, there are mass protests and violent confrontations, and there is growing discontent among the younger generation. The immense Sahrawi refugee camps inside Algeria have seen kidnappings and infiltration attempts by groups associated by al-Qaida, and West Sahara remains a major point of contention between Morocco and Algeria. Because history is often repeating itself, experiences from air warfare over this territory in the past are very likely to become relevant in the future again.

Foremost, any closer study of this part of the world shows that the related affairs are much more than ‘just another local power struggle in Africa’. Quite the contrary: the history of Western Sahara is as strongly related to the history of modern-day Morocco, Spain, Algeria and France as to that of Mauritania and half a dozen other countries in this part of the World – often to the point where it forms the foundation of these nations. Correspondingly, it is of crucial importance for understanding of where the people living in these countries are coming from, their culture and way of thinking – and for judging them wisely. After all, each person’s view of the world is shaped as much as by his/her individual experiences, as much as by the experience of the group within which the person grew up and lives in. The history of Western Sahara is thus a highly interesting affair: not only full of real drama, action, and emotion, but also a chronicle of life that shaped the present times.

Originally, the work on this project began as a part of the team-effort that resulted in the book-series *Arab MiGs*, published in 2009–2015, when one of the aims was to find out how the Moroccan government failed to keep its promise of supporting Egypt and Syria during the October 1973 War with Israel, through the deployment of at least a squadron of fighter-bombers. While eventually finding out about the reasons, before long we had concluded that there were giant gaps, and thus plenty of unknowns, in the coverage of the history

of native military flying in north-western Africa. Furthermore, while the operations of the French and Spanish air forces and their involvement in Morocco of the 1910s and 1920s in particular is very well recorded in native languages, it is next to unknown in English publications. Foremost, other than a few articles scattered in various magazines, next to nothing was published about the coming-into-being and the operational histories of the Algerian, Moroccan, and Mauritanian air forces: the Algerian air force in particular remains one of most under-published – and thus most misunderstood – military services World-wide. Finally, at the time of publication, there is not one coherent military history of the conflicts that has savaged Western Sahara since the 1960s, but especially in the 1970s and 1980s.

As usual, our methods of research are all-encompassing: although concentrating on aerial warfare, air forces, and aircraft, we have very much paid attention at socio-economic and geo-political context. Air wars do not happen in a vacuum, and even less so on their own: on the contrary, socio-economic and geo-political backgrounds are needed to explain everything necessary to understand why air forces are established and built-up the way that they are, why are they equipped with specific types of aircraft and other equipment, why and how they are trained, how they are organized, and why and where they are deployed in combat.

The more we sought, the more we found – especially in French and Spanish literature: eventually, we felt that the original intention to prepare just one volume concentrating on the war in Western Sahara of the 1970s and 1980s had to be expanded into a two-volume mini-series. The first volume, presented here, covers the history of military flying in this part of Africa up to 1975, and thus serves as a prequel for the second volume. It tells the story of the emergence of local nations, and especially that of their military flying services; the story of the first ever combat deployments of two major outside air forces – those of France and Spain – and of mutual relations of all these factors that led to the showdown in Western Sahara of the 1980s.

That said, the purpose of this project remained the same: to collect and record relevant developments and experiences, and to explain them – without accusations over the behaviour or politics of any of the parties involved in this conflict, or pointing out who is right or who is wrong: political and various other agendas are discussed only to a degree where they directly influence military-related affairs. Instead, the key component of the research approach was to document and evaluate the use of air power in this part of the world, discuss aircraft, air forces, and units involved; the reasons and effectiveness of their deployment, and lessons learned.

In the course of research for this project, the authors became aware of the extreme reluctance of the Spanish authorities to open military-related archives to the public. Indeed, the official military archives of the country for the period 1936–1968 remain closed, while the status of those for the period 1973–1975 remains unclear. The situation was only slightly better with regards to the French involvement – though then primarily because this was often related to the USA, where local researchers were granted insight into a range of affairs in question. Moreover, archives in Morocco, Algeria, and Mauritania are kept well outside the public domain: indeed, it is only in Algeria that some of the related documentation has been released to a small number of literally ‘hand-picked’ local historians,

and then published in the form of articles in the official military magazine *el-Djeich*. Multiple attempts to establish contact with the West Saharan organization POLISARIO remained unanswered. Correspondingly, we were de-facto forced into gluing together bits and pieces of the history of multiple conflicts on the basis of 2nd and 3rd hand information – primarily articles and books in French and Spanish languages, and the few publications in English. Further help was provided – usually on condition of anonymity – by a few private sources in Algeria and Morocco. Adrien Fontanellaz, from Switzerland, supported us with details on the Cuban involvement in the Sand War of 1963, while Dr David Nicolle, from Great Britain,

and Nour Bardai, from Egypt, provided precious information on the Egyptian involvement in Algeria of the 1960s and in the Sand War, too. In this place, we would like to express our gratitude for all of their help.

The resulting narrative is thus anything other than ‘complete’ and even less so ‘precise’: it is merely a review of aerial operations during multiple conflicts in the 20th Century that shaped the modern-day north-western Africa. More than anything else, we hope that our work might prompt additional, much more in-depth research into affairs related to the Rif War, Ifni War, and the Spanish military operations in the Spanish Sahara.

Abbreviations

AB	Air Base	ELAA	<i>Escadrille Légère d'Appui Aérien</i> (Light Air Support Squadron)
AdA	<i>Armée de l'Air</i> (French Air Force)	ELINT	Electronic intelligence
AdT	<i>Armée de Terre</i> (French Army)	ELPS	<i>Ejército de Liberación Popular Saharaui</i> (Sahrawi Popular Liberation Army)
AGLT	Air-Ground Liaison Team	FAIM	<i>Force Aérienne Islamique de Mauritanie</i> (Islamic Air Force of Mauritania)
ALAT	<i>Aviation Légère de l'Armée de Terre</i> (French Army Light Aviation)	FAMET	<i>Fuerzas Aeromoviles del Ejercito de Tierra</i> (Spanish Army Aviation)
ALN	<i>Armée Liberation Nationale</i> (armed wing of the FLN)	FAR	<i>Forces Armées Royale</i> (Royal Armed Forces of Morocco), also <i>Force Aérienne Royale Marocaine</i> (Royal Air Force; since 1990s – ‘FRA’)
AML	<i>Automitrailleuse Légère</i> (class of wheeled armoured cars manufactured by Panhard)	FLN	<i>Front de Libération Nationale</i> (major Algerian nationalist movement during the Liberation War against France)
An	Antonov (the design bureau led by Oleg Antonov)	FRA	<i>Forces Royales Air</i> (Royal Air Force of Morocco, since 1990s)
ANP	<i>Armée Nationale Populaire</i> (National Popular Army, Algeria)	FRELISARIO	see POLISARIO
ARC	<i>Aviation Royale Chérifienne</i> (Sherifian Royal Aviation)	HA	Hispano Aviacion (Spanish aircraft manufacturer)
ATGM	anti-tank guided missile	HQ	headquarters
BAFRA	<i>Base Aérienne des Forces Royales Air</i> (Royal Air Force Base, Morocco)	IAP	international airport
BCCP	<i>Bataillon Parachutistes Commando Colonial</i> (Colonial Para-Commando Battalion, French Army)	II	Ilyushin (the design bureau led by Sergey Vladimirovich Ilyushin, also known as OKB-39)
CAS	Close Air Support	Km	kilometre
CASA	Construcciones Aeronáuticas SA (Spanish aircraft manufacturer)	MANPADS	man-portable air defence system(s) – light surface-to-air missile system that can be carried and deployed in combat by a single soldier
CBU	cluster bomb unit	MBT	Main Battle Tank
CIA	Central Intelligence Agency (USA)	MH	Max Holste (French aircraft manufacturer)
CIFAS	<i>Centre d'Instruction Forces Aériennes Stratégiques</i> (Centre for Instruction of Strategic Forces, France)	MHz	Megahertz, millions of cycles per second
CIPC	<i>Centre d'Instruction Pilotes Combat</i> (Training Centre for Combat Pilots, FARM)	Mi	Mil (Soviet/Russian helicopter designer and manufacturer)
CO	Commanding Officer or commander	MiG	Mikoyan i Gurevich (the design bureau led by Artyom Ivanovich Mikoyan and Mikhail Gurevich, also known as OKB-155 or MMZ “Zenit”)
COIN	counterinsurgency	MPA	maritime patrol aircraft
DGSE	<i>Direction Générale de la Sécurité Extérieure</i> (Directorate-General for External Security; French external intelligence agency operating under the direction of the French ministry of Defence)	MRL	multiple rocket launcher
DoD	Department of Defence (USA)	MS	Morane-Saulnier (French aircraft manufacturer)
EAA	<i>Escadron d'Appui Aérien</i> (Air Support Squadron)	MUSLO	Moroccan United States Liaison Office
EALA	<i>Escadrille d'Aviation Légère d'Appui</i> (Light Attack Aviation Squadron)	NCO	non-commissioned officer
EC	<i>Escadre de Chasse</i> (Fighter Wing)	POLISARIO	<i>Frente Popular para la Liberación de Saquia el-Hamra y Río de Oro</i> (Popular Front for the Liberation of Saquia el-Hamra and Río de Oro; FRELISARIO,
EdA	<i>Ejército del Aire</i> (Spanish Air Force)		

QJJ	colloquially POLISARIO) <i>al-Quwwat al-Jawwiya al-Jaza'eriya</i> (Algerian Air Force)	RWR	radar warning receiver
RAF	Royal Air Force (of the United Kingdom)	RHC	<i>Régiment d'Hélicoptères de Combat</i> (Combat Helicopter Regiment)
RAMa	<i>Régiment d'Artillerie de Marine</i> (Marine Artillery Regiment)	SA	Sud Aviation (French aircraft manufacturer)
RAP	<i>Régiment d'Artillerie Aéroportée</i> (Airborne Artillery Regiment)	SAC	Strategic Air Command
REC	<i>Régiment Étranger de Cavalerie</i> (Cavalry Regiment of the Foreign Legion)	SNCAC	<i>Société Nationale de Constructions Aéronautiques du Centre</i> (French aircraft manufacturer)
REI	<i>Régiment Etranger d'Infanterie</i> (Infantry Regiment of the Foreign Legion)	Su	Sukhoi (the design bureau led by Pavel Ossipowich Sukhoi, also known as OKB-51)
REP	<i>Régiment Etranger Parachutistes</i> (Parachute Regiment of the Foreign Legion)	SyAAF	Syrian Arab Air Force
RIAOM	<i>Régiment Interarmes d'Outre-Mer</i> (Overseas Interarms Regiment)	Technical	improvised fighting vehicle (typically an open-backed civilian 4WD modified into a gun truck)
RICM	<i>Régiment d'Infanterie Chars de Marine</i> (Marine Infantry Tank Regiment)	US/USA	United States of America
RIMa	<i>Régiment d'Infanterie de Marine</i> (Marine Infantry Regiment)	USAF	United States Air Force
RPG	rocket propelled grenade	USD	United States Dollar (also US\$)
		USN	United States Navy
		USSR	Union of Soviet Socialist Republics (or 'Soviet Union')
		ZACAO	<i>Zona Aérea de Canarias y Africa Occidental</i> (Aerial Zone of Canary Islands and Western Africa, EdA)

Chapter 1

Geo-Political Backgrounds

The area known today as the Western Sahara is a sparsely populated desert territory of some 266,000 square kilometres (km) in north-western Africa, on the coast of Atlantic Ocean. It borders the northern Atlantic Ocean in the west, Morocco in the north, Algeria in the north-east, and Mauritania in the south: all borders are the artificial creations of former colonial powers and generally meaningless to the local people.

Geography of Western Sahara

Western Sahara is divided into two regions: the northern panhandle, known by its Spanish name Saguia el-Hamra, with a low coast, deep gullies and large rises of the Ouarkiz Mountains (some reaching up to 600 metres, 2,000ft) and many caves in the east; and the larger, flat southern area called Río de Oro in the south. Nowadays, the soil is some of most arid and inhospitable on the planet, yet its most striking characteristics is that it is not dominated by the sand dunes that many foreigners usually associate with the Sahara Desert: some sandy areas can be found along the coast, but most of the terrain consists of rocky plains that make rapid motorized transport possible.

While there is no permanent watering in most of Western Sahara, the area can experience flash flooding in the spring, and cool off-shore currents can produce fog and heavy dew. The interior receives just enough water sources to support seasonal grazing by the camels and goats herded by local nomads for thousands of years, but also experiences extreme heat. Average temperatures during the summer – in July and August – are as high as 43–45°C (109–113°F), and rarely drop below 25–30°C (77–86°F) even during the winter, in December and January. On the contrary, the areas away from the coast can get very cold in winter, when the thermometer rarely shows more than 0°C (32°F) by night.

Population

History of human inhabitation in Western Sahara is closely related to that of its neighbours: much of what was going on in this part of the World over the last 5000 years was influenced by events outside the modern-day borders of this territory. Inevitably, the following narrative often also applies to the history of neighbouring nations – and Morocco in particular.

During pre-historic times, what is nowadays Western Sahara was a plentifully watered grassland with a great deal of wildlife that supported a population of hunters and gatherers. The transformation from grassland to desert, beginning around 2500BCE (Before the Common Era), drove the population south into what is now sub-Saharan Africa. Instead, Berber people from the Mediterranean coastal region moved into the area.

In the 5th Century BCE, several Phoenician/Carthaginian colonies are known to have been established by Hanno the Navigator, but all vanished virtually without a trace: it was during this – transitional arid phase – that the area suffered from desertification and, before the introduction of the camel, experienced very little contact with the outside World. Five hundred years later, Pinius wrote that the 'coastal area north of the river Senegal' was populated by semi-nomadic tribes called Pharussi and Perorsi: he also described a Roman military expedition led by Suetonius Paullinus, in the year 41AD/CE (Common Era), that crossed the Mount Atlas to reach a river called Gerj, before penetrating a woody region 'abounding in elephants and serpents', inhabited by the Canarii and Perorsi, and reaching the area of modern-day Adrar, further south. Further evidence of Roman commerce with this part of the World became available through findings of related ceramics in Akjoujt and Tamkartkart, near Tichit. At that time, the population consisted of nomads in the plains – mainly from the Sanhaja tribal confederation – and a sedentary population in the river valleys and oases until

Berber tribes, known as Gaetulian Autolole or Gaetulian Dardae, began moving in the 3rd and 4th Centuries AD/CE.¹

Islamic Conquests

The spread of Islam in the 8th Century found the area more sparsely populated than ever before: indeed, most of the population was meanwhile concentrated in the towns of present-day Morocco. However, Islam brought with it the re-vitalisation of trade. As the transit of goods like salt, gold and slaves increased, the importance of Western Sahara grew, and the area now within borders of present day Western Sahara became a scene of bitter and near-permanent struggle for the control of trade routes between a number of Berber tribes.

In 1039, the area was invaded by Almoravides – for the most part Sanhaja Berbers, followers of the militant Malikite Islamic law called *Dar al-Murabitin*, from what is now central eastern Morocco. After defeating the other Sanhaja, the Almoravides established their ruling house at Marrakesh in 1062 and then expanded their control into an empire stretching for 3,000 kilometres (1,900 miles) – from most of modern-day Mauritania in the south, over all of Morocco, large parts of western Algeria, deep into Spain in the north. In 1076, they conquered the Ghana Empire, and in 1086 defeated a coalition of the Castilian and Aragonese armies at the Battle of *az-Zallaqah/Sagrajas*,

The roots of most of the disputes regarding Western Sahara of modern times can be traced back to this period. Because Morocco traces its lineage from the Almoravides, it has irredentist claims to most of the territories in question, generally summarized as the ‘Idea of Greater Morocco’. While often described as unrealistic in the West and by most of Morocco’s neighbours, this has been a matter of serious discussions at home and abroad for decades, and there is no doubt that this way of thinking has a great emotional appeal among Moroccan nationalists: so much so, it was the primary drive for that country’s fierce involvement in Western Sahara since 1976.

Although the Almoravides used to maintain a well-organized and strictly disciplined military that consisted of professional warriors, their times are long since gone. After reaching the zenith of their power in the early 12th Century, they suffered a series of defeats and in 1147 were swept from power by another Berber tribal confederation, the Almohads. While as related to the Sanhaja as the Almoravides, the Almohads placed the emphasis of their rule further north and east: after securing the territory of modern Morocco and all of southern Spain, they conquered all of modern-day northern Algeria, all of Tunisia, and most of modern-day northern Libya. Their attempts at expansion on the Iberian Peninsula was not as successful because the local Christian states became too well organized to be overrun. The Almohads thus often preferred to cooperate with the Christians instead – especially once they found themselves confronted with a growing number of rebellions and then raids of the Portuguese and the Leonese, in the early 13th Century. Indeed, during the great Christian advance of 1228-1248, they lost most of their possessions on the Iberian Peninsula (including Sevilla), and departed, leaving behind the Emirate of Granada: while this flourished for nearly 250 years longer thanks to trade and religious tolerance, it was gradually conquered and then dissolved by the Crown of Castille, in 1491, opening the way for the creation of modern-day Spain and Portugal.

Arabization

After the fall of the Almohads, control over the western part of the Sahara changed hands several times before, in the 12th, 13th and 14th Centuries, Maqil Arab tribes (also known as the Bani

Hassan Arabs) migrated into north-western Africa. For example, the Arab tribe of Oulad Dlim from Himyari in Yemen settled in the Dakhla area. While furnishing protection and supplies, they Arabized the Sanhaja Berber tribes, and greatly intensified trade. Initially in a near constant war with several neighbouring rulers and the nomadic Berbers, the Bani Hassan began leaning upon key oasis settlements and ports to develop a network of trade stations. This helped them establish themselves in a position of dominance. Due to intermarriage with the Berber population, the Arabo-Berber people of the region known as Saharawi came into being, while their Arabic dialect, Hassaniya (which retains lots of Berber vocabulary and cultural traits) became the dominant mother-tongue of the Western Sahara and Mauritania.

Hard on the heels of the Bani Hassan, the Spaniards and the Portuguese made their first attempts to establish fortified trading posts along the coast of western Sahara in the late 15th Century. They found the area sparsely populated by Sahrawi people that lived in oases and diverse coastal villages, mostly from fishing and camel herding. However, their appearance was fiercely opposed and their trading posts proved vulnerable to raids: by 1496, all had been abandoned.

Alawite Dynasty

The Spanish fishers from the nearby Canary Islands began operating along the coast of Western Sahara in the early 16th Century, but found themselves facing local pirates. Indeed, the Saadian dynasty that ruled Morocco from 1549 until 1659, not only repelled a Portuguese invasion during the Battle of *Ksar el-Kebir* (also known as the ‘Battle of Alcacer Quibir’ or the ‘Battle of Three Kings’), in northern Morocco of 1578, but also successfully defended itself against the Ottomans. Nevertheless, when it attempted to achieve firm control over western Sahara – it failed. Similar fates befell all subsequent attempts of the Moroccans to subdue the area. Indeed, while the country was reunited by the Alawite (‘Alouite’) dynasty, in 1631 – which has been the ruling house ever since – and managed to seize Tangier from the English in 1684, drove the Spaniards from Larche in 1689, and forced the Portuguese to abandon Mazagao, its repeated raids all failed to achieve firm control over Western Sahara. Instead, facing other threats in the north, the Alawites had to satisfy themselves with indirect influence through the combination of tribal allegiances and Islamic religious bonds developed between the tribes populating the area.²

Traditionally in Islamic cultures, tribes have conferred sovereignty to their rulers by a pledge of allegiance – the ‘*bai’a*’ – and over the last 500 years, most Saharan tribes have sworn allegiance to the Alawite sultans of Morocco at one point or the other. As ‘Commander of the Faithful’, the latter thus combined religious and political authority in his being: unsurprisingly, the Moroccan nationalists argue that this allegiance carries the same weight as territorial sovereignty in non-Islamic, Western civilisations – because, even if never establishing themselves in an administrative control of the tribes, and thus remaining unable to project their power directly, the sultans needed not to exercise absolute control over each tribe and the land it inhabited.

Chapter 2

European Colonization

While Alawite-controlled Morocco became the first nation to recognize the independence of the fledgling United States of America (USA) in 1777, it subsequently not only found itself at odds with the nascent nation on the other side of the Atlantic Ocean (during the so-called Barbary Piracies of the 18th Century), but exposed to the full might of Western imperialist interests. France appeared on the scene by in 1830, while in 1860 Spain won a war against Morocco and expanded its enclave in Ceuta, in the north of the country.³ Subsequently, both European powers continued fighting small wars, biting off one piece of the Moroccan – and neighbouring – territory after the other. Indeed, during the Berlin Conference of 1884, and without any kind of consultations with the native population, the Spanish were granted not only control over the northern coast of the country, but also that over the ‘southern zone’. Simultaneously, they meanwhile began carving out the future Spanish Sahara further south, through establishing settlements of Boujdour and Dakhla (subsequently renamed to Villa Cisneros by Spaniards). They found the latter area populated by two main groups: colloquially designated the ‘Sahrawis’, or referred to as ‘Southerners’ or ‘Southern Berbers’ in Morocco, these were nevertheless the ruling Arabs and the nomadic Berber tribes, divided into a variety of tribes within a complex and highly stratified society. The dominant groups were the Reguibat, Tekna, and Delim tribes: the Reguibat comprised Arabized Berbers who spoke Hassaniya Arabic. They lived as nomadic herdsmen and inhabited the eastern half of the country (as well as parts of Algeria, Morocco, and Mauritania). The Tekna tribe was of mixed Arab and Berber origin, speaking a Berber dialect and living as semi-nomads in the northern part of Spanish Sahara (and southern Morocco). The Delim was ethnically more Arab than the Reguibat or the Tekna, spoke Hassaniya Arabic and lived in the south-eastern part of the territory.⁴

The Spanish Sahara

The territory that eventually became known as the Spanish Sahara – and was then officially declared the Overseas Province of the Spanish Sahara – came into being rather gradually, in the course of the Spanish occupation in the 19th Century. Until today, there remains a dispute about whether the territory was under Moroccan sovereignty at the time when the Spanish claimed it, or was it claimed by them only during the Berlin Conference. It is certain that the appearance of the Spaniards on this part of the Atlantic coast of Africa was promptly and stiffly opposed by the indigenous Sahrawis: preoccupied with the struggle for their own survival, Moroccan rulers usually played only an indirect role.

As the Spaniards began establishing trading posts and a military presence, in July 1885 King Alfonso XII appointed Emilio Bonelli as the first commissioner of what meanwhile became known as the Río de Oro and stretching roughly from Cape Blanc to Cape Bojador. Two years later, on 6 April 1887, the area was incorporated into the Capitaney General of the Canary Islands for military administration purposes.

Disorganized at first, the Sahrawi resistance only stiffened. By 1898, Sheikh Mohamed Mustafa Ma al-Aynayn from Oualata (nowadays Mauritania) – who saw the Spanish presence both as an intrusion of hostile foreign powers and a Christian assault on Islam

– began agitating for an all-out uprising. Numerous Sahrawi tribes sided with him and began conducting raids against the Spaniards – and against the French in the southern Morocco. Ma al-Aynayn then established a ‘ribat’ (a base, retreat, or a small fortification) in Smara with the aim of using it as a springboard for attacks on the colonialists. In support of this effort, the Moroccan sultan Abdelaziz provided him with craftsmen, materials, financing and arms, and then appointed him a Qaid (‘commander’ or ‘leader’).⁵

Morocco was meanwhile dominated by the French, who were gradually advancing ever deeper into this territory and had their primacy over this part of Africa confirmed by Great Britain in 1904 – in exchange for granting London free hand in Egypt. The French position in Morocco – initially based on little other than the private initiatives of various top military officers, either responsible for protection of possessions in Algeria, or those keen to pursue their expansionist ideas – was further strengthened during the Algeciras conference in 1906.

With the Sultan of Morocco giving in to Paris, Ma al-Aynayn was forced to act on his own. In 1904, he proclaimed a holy war (‘jihad’) against the colonizers. In an effort to rally as many of native tribes around him as possible, he claimed to be acting on behalf of the Sultan of Morocco, although the latter had no direct control over him. On the contrary: the Sultan Abdelaziz eventually entered into cooperation with the colonial powers and in 1906 ratified the Algeciras Conference, granting them substantial concessions over Morocco. Thus, Ma al-Aynayn not only began considering the Sultan as a traitor, but when seeking to source additional firearms and other modern equipment he entered negotiations with such rival European powers as Germany. The result of his effort was a fighting force of around 6,000 men. Amid growing anarchy in Morocco caused by the French and Spanish invasions, in 1910, Ma al-Aynayn led his army northwards – with the aim of toppling the new Sultan Moulay Abd el-Hafiz. However, he was defeated by the French on 23 June 1910, and died only a few months later.

North-western Africa remained the playground of multiple European powers until the Treaty of Fez was imposed upon the Sultan of Morocco, on 30 March 1912. At the same time, Sultan Abd al-Hafiz preserved his family’s rule, but conceded most of his country’s sovereignty to France as a protectorate: while, theoretically, this meant that France was to protect Morocco against external threats only, in practice, it meant that the French ruled absolutely – even though, officially, through the sultan and his ministers. Indeed, the French failed to protect Morocco’s territorial integrity. Spain, which already had two colonial enclaves on the Moroccan coast of the Mediterranean Sea – Ceuta and Melilla – since the 16th Century, demanded its ‘rights’ over the northern and southern extremities of Morocco. The northern zone comprised about 20,000 square kilometres (8,000 square miles) along the coast of the Atlantic and the Mediterranean Sea, and the southern zone – variously known as Cape Juby or the Tarfaya Strip – included about 23,000 square kilometres (9,200 square miles) along the border to the Spanish Sahara (known as the Río del Oro at the time). Forced to negotiate, in 1912 Paris signed the Treaty of Madrid, according to which the Spaniards were granted their demands. Their only claim that was not met was for the port city of Tangier, in the Strait of Gibraltar:

this was placed under international control. The two treaties thus resulted in Morocco becoming a patchwork state in which only the Europeans had the final word. Little surprise that widespread unrest, popular uprisings, and general anarchy continued.

Ma al-'Aynayn's son, Ahmed al-Hiba (also known as 'The Blue Sultan') continued the legacy of his father. In 1912, he proclaimed a jihad and sparked a general uprising in the southern Morocco. Widely recognized as the Sultan of Taroudannt, Agadir, and Dades and Draa regions, he was reinforced by thousands of tribal warriors: on 18 August 1912 he entered Marrakesh and was proclaimed a Sultan there, too. However, the French were meanwhile neck-deep into taking-over: alarmed that al-Hiba might undermine the legacy of their puppet-sultan they rushed a column of 5,000 troops, supported by about a dozen each of field guns and machine guns – under the command of Colonel Charles Mangin – into a counterattack.

The decisive clash took part on 6 September 1912, in the course of the Battle of Sidi Bou Othman, about 40 kilometres outside Marrakesh: when facing the enemy the French formed a square and then waited for Hiba to unleash his assault. As the densely packed mass of tribal warriors rushed towards their position, its ranks were subjected to devastating firepower. Suffering horrific losses, successive waves of attackers collapsed short of the French position: although operating several Krupp guns, the tribal warriors failed to bring these to bear. Over 2,000 were killed or wounded by the time Hiba ordered a general retreat. The remainder were scattered by the pursuing French cavalry. Al-Hiba retreated towards the south, but never gave up the struggle: his fighters continued to harass the Spaniards and the French until his death on 23 June 1919.

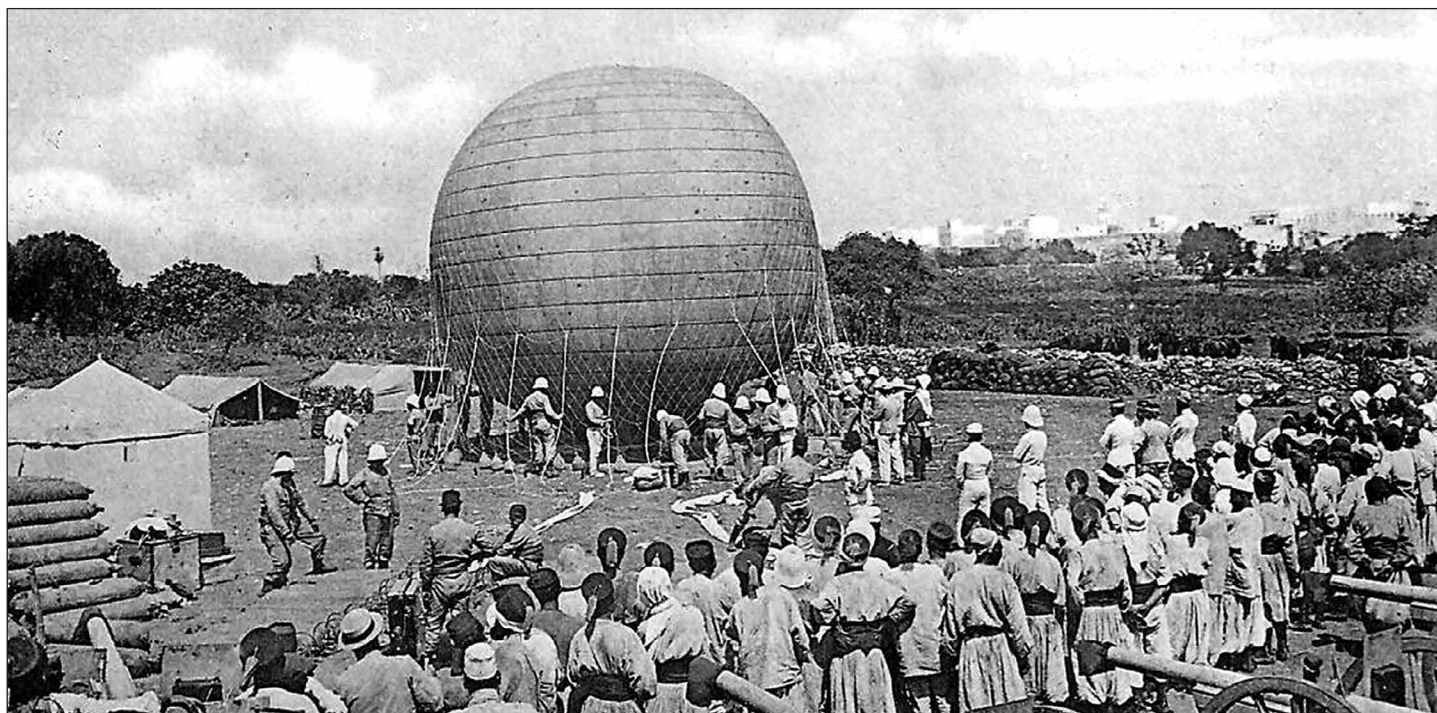
Free of the threat of tribal warriors, the Spaniards continued their conquests. Although struggling when trying to establish themselves in control of the entire area until conquering the hinterland in 1934 – primarily through forcing previously nomadic inhabitants to settle within certain protected areas, and introducing urbanisation – the Spaniards eventually managed to join the territories of Río de Oro with Saguia el-Hamra, and thus create a single colony.

French Military Aviators in Morocco

The British application of air power in diverse conflicts in the Middle East and Africa of the 1920s, and its importance for the future of aerial warfare, has been widely studied and published in the English-language. In comparison, and probably because of traditional rivalry between France and Great Britain, the fact that the French made extensive use of air power in western Africa, and that at least a decade earlier than the British in the Middle East – remains largely unknown, or at least less well-known than the deployment of Italian and Spanish aviation in Africa around the same time.

The first French 'flying' unit in Morocco was an engineer company of 57 officers and other ranks operating observation balloons, commanded by Lieutenant Bienvenue that arrived in Casablanca on 7 September 1907. Part of the French Army's Military Ballooning Service (*Service de l'Aérostation Militaire*) at Versailles, this asset was one of three balloon companies existent as of the time. Although seeing almost immediate combat deployment against Moroccans that resisted the French occupation, it was withdrawn by March 1908 and never returned to Africa again. Nevertheless, and unsurprisingly for the cradle of European aviation, a new opportunity was to offer itself quite soon. Following the *Meeting de Reims*, of August 1909, France's Minister of War, General Brun, announced his intention of purchasing aircraft and training pilots for the French Army. The first pilot graduated on 8 March 1910, by when two Farman, one Blériot and two Wright aircraft became available and the Military Aviation Establishment (*Etablissement Militaire d'Aviation*) had been created at Vincennes to conduct related testing. By November of the same year, the Army not only ran the first major exercise involving aircraft, but was also in possession of 30 flying machines and 41 pilots (some of whom were naval officers). By early 1911, the number of pilots grew to 139, with another 122 undergoing training.⁶

In the light of continuous unrest in Morocco, and assuming that the aviation was likely to offer 'convenient service' in 'colonies' where land communications were underdeveloped, what was now officially the Military Aviation (*Aviation Militaire*) received the order



An observation balloon of Lieutenant Bienvenue's detachment being setting up at Casablanca in November 1907. The main task of the unit was artillery observation and fire-direction. (Albert Grandolini Collection)



A Blériot XI of the Morocco Western Detachment of the French Army's Military Aviation Establishment in 1913. The unit later flew the first aerial attacks in the history of the French military aviation. (Albert Grandolini Collection)

to deploy a single Breguet bi-plane to Casablanca. Flown by Henri Bregi, the aircraft flew at least one reconnaissance sortie over Fez, on 13 September, and is known to have been fired upon. On 14 October of the same year, a Deperdussin Type T aircraft operated from the Oudjda area is known to have supported a column of French ground troops, too.

Meanwhile, and in light of the first positive experiences, on 28 September 1911 the French Minister of War sent a team of officers to Morocco with the task of inspecting the possibility of deploying an entire section of military aircraft to the country. Led by Lieutenant Clavenad, and including four pilot-officers, one sergeant, and thirty other ranks, this team arrived together with six Blériot XI single-seaters, construction material for two hangars, four light shelters, and one Peugeot automobile. The unit established two detachments: one in Casablanca and the other in Rabat, and initially provided liaison services to the ground forces. However, it was only the siege of Fez – meanwhile under pressure from about 20,000 insurgents – that gave birth to the idea to arm any of these. Although officially sanctioned, this proved rather hard to realize before General Hubert Lyautey – dubbed the ‘Maker of Morocco’ and the ‘French empire builder’ – was appointed the Resident-General (General Commissioner) in Morocco. He not only advanced Clavenad to the rank of a Captain but also sent him to Paris, a month later, in order to ‘speed things up’.⁷

When diverse ministries turned all of Lyautey's and Clavenad's requests down, the latter published an article in the French press, on 20 July 1912, intending to raise awareness in public opinion about the usefulness of aircraft for combat purposes. Citing recent Italian experiences from the campaign in Tripolitania (Libya), he simply asked, ‘Do we want or do we not want aviation in Morocco? It would be about the time to know!’ – further pointing out that although six aircraft were deployed in the country, it remained unclear who was responsible for them and their crews, or for their maintenance.

Not the least pleased about this ‘emotional outburst’, the military establishment reacted in usual fashion: two days after this article was published, Clavenad received the order to report to his original – infantry – regiment. His career fell victim to a major controversy between the artillery and engineering branches of the French Army, ongoing since at least 1909: the two branches were fighting each other over the issue of who should control aviation in the future.



General Louis Hubert Gonzalve Lyautey – the ‘Maker of Morocco’. (Mark Lepko Collection)

Eventually, it was only in September 1912 that a solution was found to share the responsibilities: henceforth, engineers were responsible for the clothing, supplies and most of the ground personnel, but pilots were recruited from the ranks of balloon-equipped units of artillery observers.

Lautey's Teiaras

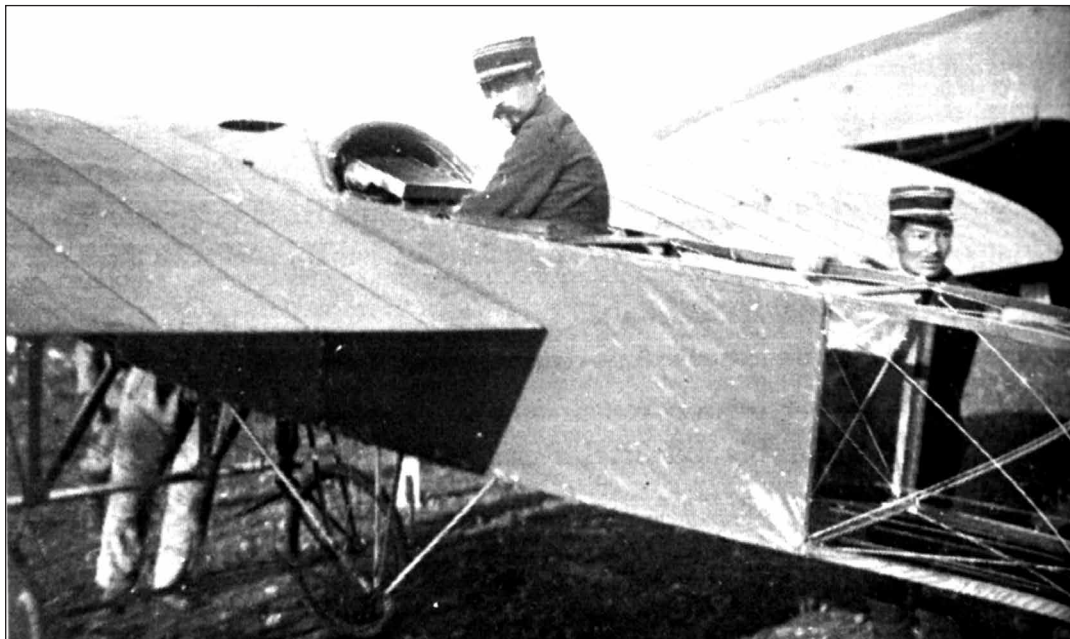
Effective from 19 September 1912, the French military aviation in Morocco was officially established as consisting of two sections: one in the eastern and another in the western part of the country. Both were attached to the ground troops and receiving their orders from the top local commanders, but administratively depending upon the Engineer Corps of the Army.⁸ The final say with regards to all of their operations – and the number of aircraft and pilots assigned – was actually in the hands of General Lyautey. He appointed them a very wide range of tasks, ranging from liaison between various units,

to reconnaissance (especially during subsequent revolts in Mogador and Agadir). In April 1913, French aviation also took part in an operation in the Tadmra area, where its aircraft and their crews acted as pathfinders, topographers and for what General Lyautey subsequently referred to as 'destruction': the first ever combat operations including deployment of on-board weapons flown by what was to become the French air force.

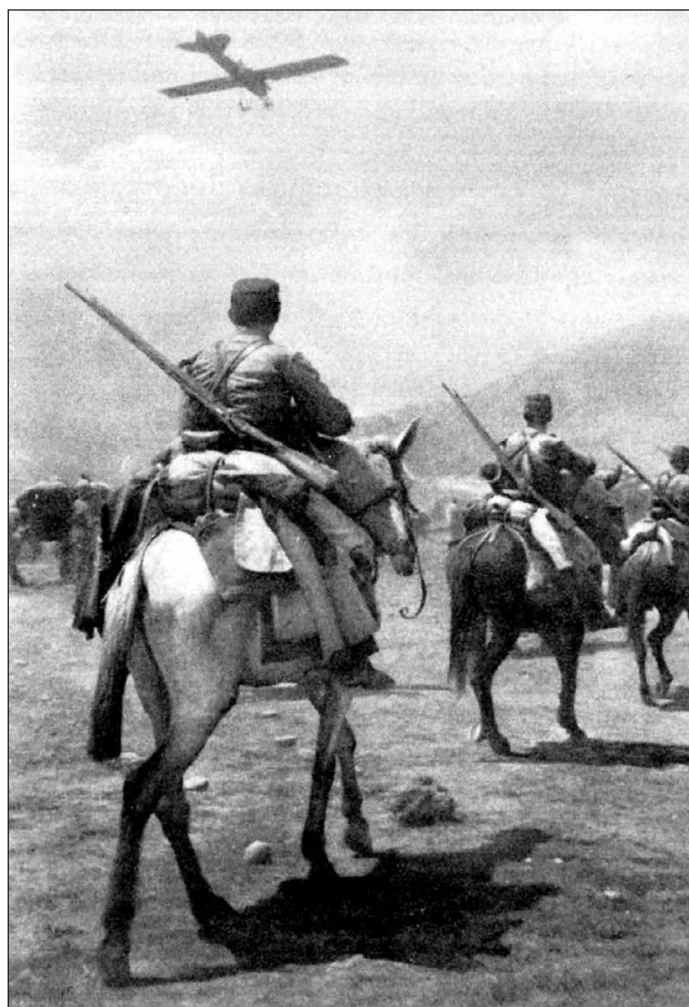
Lyautey went to quite some lengths to support his aviators. Amongst others, he ordered an expansion of their major base in Casablanca, where aircraft could be refuelled and repaired, and the construction of three further airfields – Casbah Tadmra, Marrakesh and Mogador – each of which was equipped with a radio station, a stock of fuel, spares, and shelters for aircraft and equipment. This de-facto establishment of the (French) military aviation in Morocco was completed later in the spring of 1913, through the appointment of Captain Chaunac Lanzac as the chief of the nascent service.

General Lyautey remained supportive of the fledgling flying force, and despite its success – apparently under the impressions of the loss of an aircraft and its crew of two after these fell behind enemy lines – in 1913 prematurely concluded that the aviation was performing duties in Morocco it could not perform in Europe, and that it was foremost a tool of propaganda and by far not as effective in combat. Apparently, his standpoint was that although the aircraft did prove useful for military purposes, their primary task in Morocco was that of collecting experience – and satisfying the public opinion. His airmen flew a great deal, even though their achievements largely remained unknown. Foremost, they reconnoitred Morocco wide and far, and learned crucial lessons about the influence of topography and weather upon flying – also due to another tragic accident: on 4 May 1913, a Blériot IX underway at an altitude of 1,800 metres fell into a spin and crashed, killing Lieutenant Sainte-Lague.

During the same year, the first of the French aircraft in Morocco was equipped with reconnaissance cameras, but – and foremost – nearly all had been deployed for additional air raids on insurgent-controlled areas. Indeed, bombing operations – especially in the Fez area – were even intensified in 1914, after 400 custom-tailored bombs were acquired from a certain Dane named Haasen. Although each aircraft could only carry a maximum of four or five bombs of three kilograms each, and fly a mere two or three hours a day, before long, the French became aware of the fact that their 'air strikes' had devastating effects upon the morale of native insurgents. Interrogation of prisoners revealed that not only were many of these killed or injured, but that there was endemic fear of the 'Teiara' – as the aircraft became known between the natives – and bombing in particular. Unsurprisingly, by the time a major report on their activities was issued in June 1914, the four surviving aircraft were severely worn out and in need of replacement engines, wings and stabilizers. Before a suitable replacement could be organized, the



One of the early French military aviators deployed in Morocco of 1912 was the Vietnamese Lieutenant Do Huu Vi, here seen on the right side, behind one of the unit's Blériot IXs, in the cockpit of which sat Lieutenant Van den Vareo. (Albert Grandolini Collection)



A mounted patrol underway under the top cover of a Deperdussin Type T of the French Army's Military Aviation Establishment, in 1912 or 1913. (Albert Grandolini Collection)

outbreak of the First World War intervened: it prompted the French Army to issue an order for withdrawal of all the flying units from Morocco back to Dijon, where they were re-organized as the 1st Aviation Group in August 1914. It was only two years later, that



The final act in the first episode of the French military aviation in Morocco: airmen of the Military Aviation Establishment with one of their Bleriot XIs, lined up for inspection before their return to Europe, in July 1914. (French Ministry of Defence)

General Lyautey was granted the equipment and personnel necessary to re-establish a French military aviation service in Morocco.

Spanish Morocco

While disputes between the French and the Moroccans continued causing local uprisings, the dispute between Madrid and Paris over control of Morocco was solved through Paris recognizing northern and southern parts of this area as spheres of Spanish interest. Following extensive negotiations, the Spanish protectorate in Morocco was established on 27 November 1912, by a treaty between Madrid and Paris. This consisted of a northern strip on the Mediterranean and the Strait of Gibraltar, including the ports of Tangier, Ceuta, Tetouan and Melilla, the Ifni enclave on the Atlantic coast, and the Tarfaya Strip, bordering the Overseas Province of the Spanish Sahara. While garrisoning these areas with the Army of Africa (*Ejército de África*) – a branch of the Spanish Army that from 1920 onwards included the Spanish Foreign Legion (modelled on the French Foreign Legion) – Madrid subsequently did very little to colonize these areas. The primary reasons were that the Spaniards found these territories of very little economic interest, but also that they encountered even more problems with local unrest than the French did in the parts of Morocco under their control. Indeed, this is how it happened that the predecessor of the future Spanish air force was – just like the predecessor of the future French air force – also to see its first action on territory nowadays within the borders of Morocco.

Early Military Flying in Spain

Military flying in Spain had its beginnings in December 1896, when a formation of observation balloons came into being, designated the *Servicio Militar de Aerostacion*. In 1909, a detachment from this force was deployed to the Rif, where its balloons and their crews were employed for artillery observation purposes and for photographing enemy positions. During the same year, the Spanish military acquired about a dozen Farman Mf.7s, and a few Lohner Pfeilflieger: before long, at least a pair of these was re-deployed to a makeshift airfield outside Tetouan with the task of flying reconnaissance.⁹

The fledgling Spanish military aviation thus saw no involvement in the struggle against Ma al-Aynayn's uprising. Instead, the build-up of the Spanish military aviation experienced a significant boost only once Italian experiences from Tripolitania in 1911 became known. Whereas only two Farmans were present at the airfield outside Tetouan in that year, by 1912 reports surfaced about an 'entire row' of monoplanes (probably Bristol Priers).¹⁰ Indeed, while Italian Lieutenant Gavotti was the first to release a few hand-grenades over the Ain Zara oasis in Tripolitania, on 1 November 1911, it was the Spanish military aviators that became the first to release weapons custom-tailored for deployment from aircraft. This happened on 13 November 1913, when they dropped eight bombs in the course of a fire-power demonstration staged in the Rio



One of the early Spanish aviators in Spanish Morocco was originally a medical officer: this photograph shows Sergeant Pérez Núñez in the cockpit of a Bleriot XI. (Photo by Lázaro, via *La Ilustración Artística*)

Hairia area. Deeply impressed, and expecting the aircraft to prove capable of bombarding the enemy 'regardless of developments on the ground', General Manuel Fernández Silverstre, the commander of the Army of Africa, then ordered an air raid by three Farman Mf.7s against insurgents in the area known as the Rif: 'The bombing took place as planned. The next day, the villagers arrived en masse to Silverstre, slaughtering a bull and presenting it as their expression of friendship...'¹¹

While there is little doubt that at first the local villagers were shocked by being exposed to an unexpected attack from the air, the stubborn tribal warriors proved rather harder to impress. On the contrary, they quickly disproved Silverstre's belief, and that of many other contemporary military officers, that the aircraft would be nearly impossible to hit by ground fire: sometime in November 1913, they hit the two crew of one of Farmans passing overhead, causing the aircraft to crash. The Moroccans thus became first to ever shot down an enemy aircraft in the history of aerial warfare.¹²

The Rif War of 1921-1927

Unsurprisingly considering malversations by the colonial authorities and brutalities by their military, the emotions involved and the deployment of the latest technology, the next major armed conflict in this part of the World was to have grave consequences – not only for the native population of northern Morocco, but especially for Spain. Following years of extensive agitation and negotiations, anti-colonial activist Muhammad Ibn Abd el-Krim al-Khattabi – a former court judge – had managed to unite the majority of the local tribes and declare an independent 'Confederal Republic of the Tribes of the Rif' with the capital of Ajdir, and its own currency, on 18 September 1921. While certainly inspired by debates about Islamic social and religious reform, and making extensive use of religion to rally diverse tribes around him, Abd el-Krim later explained his aims as follows: 'I wanted to make the Rif an independent country like France or Spain and to found a free state with full sovereignty... independence which assured us complete freedom of self-determination and the running of our affairs, and to conclude such treaties and alliances as we saw fit.'

Working feverishly, and first intending to create a state separate from Morocco, but then expanding his ambitions to most of the Spanish and French possessions, Abd el-Krim established a command and power structure, including an armed force of 30,000 well-disciplined and motivated combatants. Indeed, recognizing the importance of air power, he went as far as to launch attempts to acquire several aircraft – although without any success.

Ignoring Abd el-Krim's warnings to stay away, the Spaniards reacted by bolstering the Army of Africa to about 60,000 troops, including at least two squadrons of aircraft. Indeed, the attempts of



Mohammed Ben Abd al-Krim el-Khattabi, leader of the Rif Republic. (Mark Lepko Collection)



General Manuel Fernández Silvestre (centre, right), the commander of the (Spanish) Army of Africa, as seen in Melilla, at the start of the Rif War in 1921. (Archivo General Militar de Guadalajara)



Three rows of Spanish military aircraft – all assigned to the 4th Group – as seen at Nador airport during the Rif War. The aircraft wearing registrations such as M-MRBO, M-RAX, and M-MRAY were Bristol F.2Bs, while other recognizable types include Martinside F.4s and de Havilland DH-9As. (Albert Grandolini Collection)

1931 period – which, in turn caused the political differences that later provoked the Spanish Civil War.

In the wake of their defeat in the Rif, the Spanish forces retreated from all over northern Morocco into the enclaves in Melilla and Ceuta: in essence, Madrid thus lost all the territories it had gained since 1909. Although greatly encouraged,

the representatives of Abd el-Krim's government to obtain aircraft proved worrying enough for the Spanish High Commissioner Berenguer, in Melilla, to request what was meanwhile the Spanish Military Aeronautic service (*Aeronautica Militar Española*) to deploy of up to ten Spad XIII and several Martinside F.4 Buzzard fighters. All the aircraft were leftovers from the First World War, while their Spanish pilots and ground personnel were trained by British advisors.¹³

While thus concentrating an imposing military force, the Spanish position in northern Morocco was actually extremely shaky: with the exception of their Foreign Legion, the majority of units deployed there consisted of poorly trained and supplied conscripts and reservists, many of them completely illiterate people from the poorest elements of Spanish society. Furthermore, the majority of units were commanded by endemically corrupt officers.

Supported by air raids of the Military Aeronautic, these troops crossed the Ameqqa River and then entered the Abarran mountains – only to find themselves exposed to a series of apparently small, but highly effective hit-and-run attacks by the guerrillas. In the course of a campaign that culminated in what became known in Spain as the 'Disaster of Annual', some 13,192 Spanish troops were killed. As his defences collapsed, and when realizing the extent of the disaster, General Silvestre committed suicide. The military of the Rif Republic thus managed to capture more than 20,000 rifles, 400 mountain guns and 125 cannons – which were quickly turned against their former owners.¹⁴

Little known nowadays is that it was precisely this embarrassing defeat that created such a political earthquake, and such a deep rift in the Spanish political landscape, that it resulted in the collapse of the monarchy and installation of a military dictatorship in the 1923–

in a move he was later to bitterly regret, Abd al-Krim decided not to attack the two besieged ports: instead, he sent diplomatic representatives to London and Paris: however, and as in so many other cases of that time, his attempt to gain international recognition was promptly ignored by Western powers.

The war thus went on and by August 1921, the Army of Africa's garrison in Melilla was reinforced to around 36,000. Emboldened, their commander, General Jose Sanjurjo then launched a counteroffensive with the aim of recovering the lost territory. By January 1922, he managed to reoccupy the coastal plain – largely because the Rifian forces avoided a major engagement and instead consolidated their hold of the inland mountains. In the meantime, he had the Military Aeronautic deploy a unit operating de Havilland DH.4s to the airfield near Melilla. These were unleashed into a campaign of murderous air raids on all the towns and market places in the Rif that they could find. For example, on 22 January 1922, they bombed the busy market in Bu-Hermana, halfway between Melilla and Alhucemas Bay. The aircraft approached from the sea, in a glide with their engines at idle, so to remain unobserved until it was too late: then each released two bombs from low altitude right into the crowded market, full of civilians, cows, horses, sheep, and chickens. Over 260 were killed and wounded.¹⁵

However, Sanjurjo's campaign remained one of very few of Spanish successes in this war. On the contrary, through 1923 and 1924 the Rifis continued dealing them one defeat after another. They crowned their counter-offensive with the conquest of the mountain town of Chaouen, in the autumn of 1924, where the Spanish lost another 10,000 soldiers and a corresponding arsenal. Unsurprisingly, while such victories made Abd el-Krim and his military commanders ever more confident, they made the war

increasingly unpopular in Spain and caused such a political crisis in Madrid that the government began seriously considering the option of giving up on the Rif. To prevent this from happening, but also in an attempt to prevent a civil war, General Miguel Primo de Rivera seized power in Madrid in a coup d'état on 13 September 1923.¹⁶ Ironically, although promptly encouraged by other officers to re-launch a counter-offensive on the Rif, even de Rivera soon concluded that the war was unwinnable, and began considering the option of at least temporarily abandoning the area.

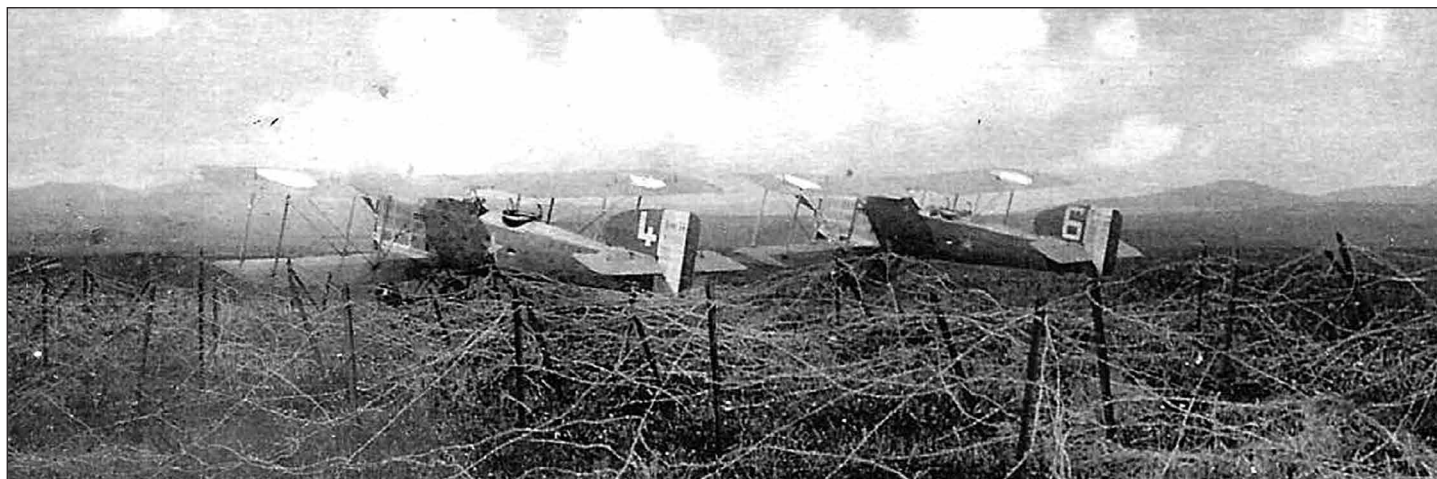
Sharifian Aviation

Alarmed by the Spanish defeat, by 1924 General Lyautey concluded that urgent measures were necessary in order to protect French possessions south of the Rif. He knew that the state led by Abd al-Krim was actually poor, mountainous land, heavily reliant on food imports from the fertile valleys of French Morocco. Aiming to cut off these supply routes, he ordered the French Army to establish a chain of outposts along the Oureghla River, between Fez and Spanish Morocco. This proved a very bad idea. Having no doubts about the seriousness of this threat, in April 1925 Abd al-Krim – who, in desperation over Western refusal to accept him, meanwhile increasingly saw this war as an inter-religious struggle – ordered his commanders to meet the tribal leaders in control of the agricultural

lands south of the Rif. Explaining that their leader would be fighting a holy war against the infidels, with the aim of throwing these out in the name of the greater glory and regenerated Islam – they announced that the occupation of *all of Morocco* would be over 'within days'. Unsurprisingly, dozens of tribal leaders from the northern French Morocco quickly sided with Abd al-Krim's force.

The resulting force of about 8,000 of the Rifian Army and local tribal fighters was unleashed into an attack on the French line of outposts on 12 April 1925. Having intimate knowledge of the local terrain, Abd al-Krim's combatants found it easy to isolate and then assault the outposts, one after the other, regardless how well-fortified most of them were. In a matter of two weeks, at least 40 out of 66 French positions had been either taken or abandoned, over 1,000 troops killed, 3,700 wounded, and 1,000 missing. In essence, the French Army thus lost more than 20 percent of the force deployed in the Rif, and was forced to withdraw from the countryside to Fez.¹⁷

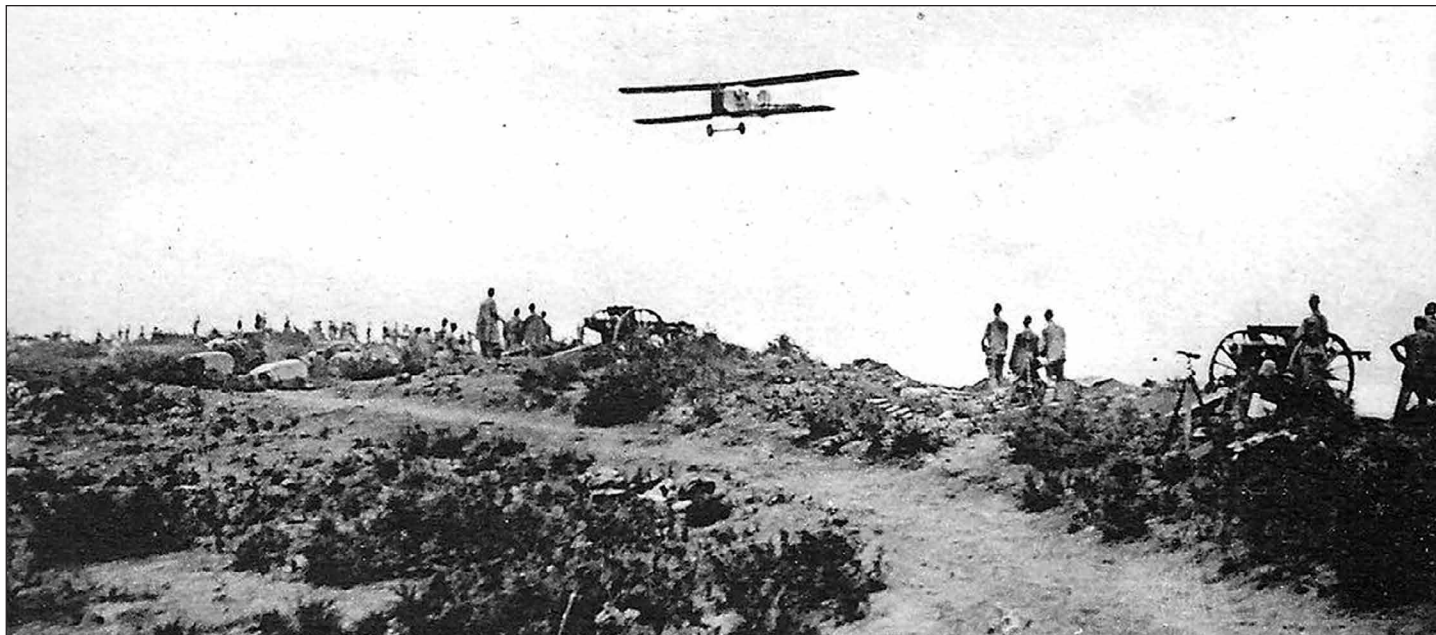
The latter thus became Abd al-Krim's next target: by June, his force encamped a mere 40 kilometres (25 miles) away. However, local religious scholars – many of them members of the Moslem Brotherhood of Morocco – refused to side with the Rif: thus, when Abd al-Krim's army reached the outskirts of Fez, it found itself facing not only the French Army, but also with Lyautey's Moroccan allies. This was to prove an obstacle too much: after launching a few



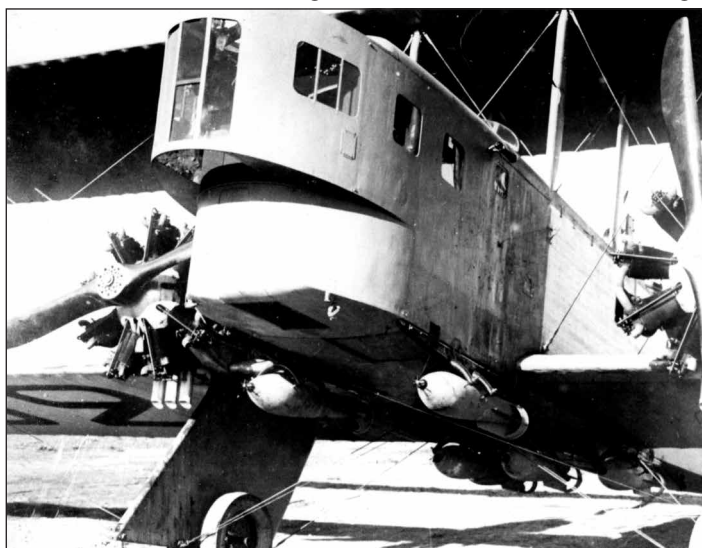
When the Rifan rebels invaded French Morocco in April 1925, the French Military Aviation faced them with the locally based 37th Aviation Regiment, made-up of ten squadrons of Breguet 14A2s. Later on, the Sharifian Squadron was added, equipped with the same type – two of which are visible in this photograph. Breguet 14s usually operated from the Ouezzane, Taza, Meknes and Fez airbases. (Albert Grandolini Collection)



By the summer of 1925, the 37th Aviation Regiment, which oversaw all military operations in Morocco, had been increased to 18 squadrons of Breguet 14A2s, with reinforcement units coming from France, Algeria, Tunisia and Senegal. (Albert Grandolini Collection)



A French Breguet 14A2 overflying a battery of 75mm guns during the concluding phase of the Rif War. The sturdy and versatile aircraft flew most of the missions of the conflict, including reconnaissance, observation, bombing and ground-support. (Albert Grandolini Collection)



A Farman F.65 Goliath bomber of the French Navy's 5B2 Squadron seen at Fez in 1926. The unit deployed 9 Farman F.60s and F.65s during the Rif Campaign. This aircraft was seen with the standard war load, consisting of five 120kg bombs. (Albert Grandolini Collection)

half-hearted attacks, the Rifians withdrew.

By the time of this crisis, the overspill of the Rif War into French Morocco had set off all the alarm bells in Paris. Through June and July 1925, massive reinforcements were poured into the protectorate, with the aim of enabling a counter-offensive. Indeed, the only reason why it took the French several months to organize their counter-stroke was the fact that around the same time their military was hopelessly overextended by having to fight three different wars around the Mediterranean Sea: as well as Morocco, it was involved in Lebanon and Syria, too.

Eventually, the French managed to concentrate a force of about 160,000 men – including troops from metropolitan France (amongst them a unit equipped with Renault FT.17 tanks), Algeria, Senegal, and of the Foreign Legion – commanded by nobody less than the hero of the First World War, Marshal Henri Philippe Pétain. This was supported by about 150 aircraft, including Breguet 14s of the Dakar-based Colonial Aviation Squadron (*Escadrille d'Aviation Coloniale*), miscellaneous types operated by the Africa Aviation

Groups (*Groupes d'Aviation d'Afrique*) home-based at Algiers (1°), Oran (2°), Sétif (3°), and Tunis (4°), and a few Farman Goliath bombers of the French naval aviation. Furthermore, the French took care to set up a particularly 'special' unit: colloquially known as the 'Sharifian Squadron' (*Escadrille Chérifienne*), but officially the 19th Squadron of the Moroccan Aviation Regiment, the asset in question was nominally controlled by the Royal Guard of the Sultan of Morocco. Actually, it was entirely staffed by mercenary pilots and ground personnel from the USA. Commanded by Colonel Charles Sweeny, most of the Americans involved had previously served with the famed Lafayette Volunteer Squadron in France during the First World War, and amongst them were several 'aces' (pilots credited with five or more victories in air combat). The mercenaries all wore Moroccan uniforms and flew Breguet 14 biplanes marked with the green Sharifian Star. Initially at least, the reason for the establishment of such a unit was pure propaganda: essentially, the French were eager to present their attempt to quell the secession of the Rif Republic as an effort involving Moroccan forces.¹⁸

The End of the Rifian Republic

Emboldened by French efforts, the Spaniards reinforced their Army of Africa to about 90,000 men. These were supported by a miscellany of aircraft deployed at Melilla airport, including several Farman F.50A Giant bombers, numerous Breguet 14s, Bristol Fighter F.2Bs, and de Havilland DH.4s, but also a few Construcciones Aeronauticas S. A. (CASA) manufactured Breguet 19A-2 reconnaissance bombers.¹⁹

The combined Franco-Spanish force of about 123,000 officers and other ranks launched its offensive on the Rif Republic on 8 May 1925: the French pushed through from the south, while the Army of Africa secured Alhucemas Bay through a large-scale amphibious landing – the first ever in the history of warfare to see involvement of not only the ships and ground troops, but also tanks and aircraft – and then pushed south. The American squadron joined the battle in August, by when every town and village in the Rif Republic was bombed out, and thousands of civilians massacred. One of the members of the Sharifian Squadron, Colonel Paul Ayres Rockwell, recalled an air strike from 7 September 1925:

Our objective was Chefchaouen, the holy city of the Djebala tribesmen, a place of some 7,000 inhabitants, built against the foot of the precipitous Mzedjel Mountain. It had not been bombarded previously, and because of its prestige and sacredness as a holy shrine, an air attack against it was expected to intimidate the Djebalas and be effective in detaching them from the cause of Abd al-Krim.

The city looked lovely from the air, hugging its high mountain and surrounded with many gardens and green cultivations...I looked down upon the numerous sanctuaries, six mosques, the medieval dungeon, the big square with its fountain playing and fervently hoped none of them had been damaged. I

regretted having to attack a town that always had maintained its independence except for the few years of Spanish occupation.²⁰

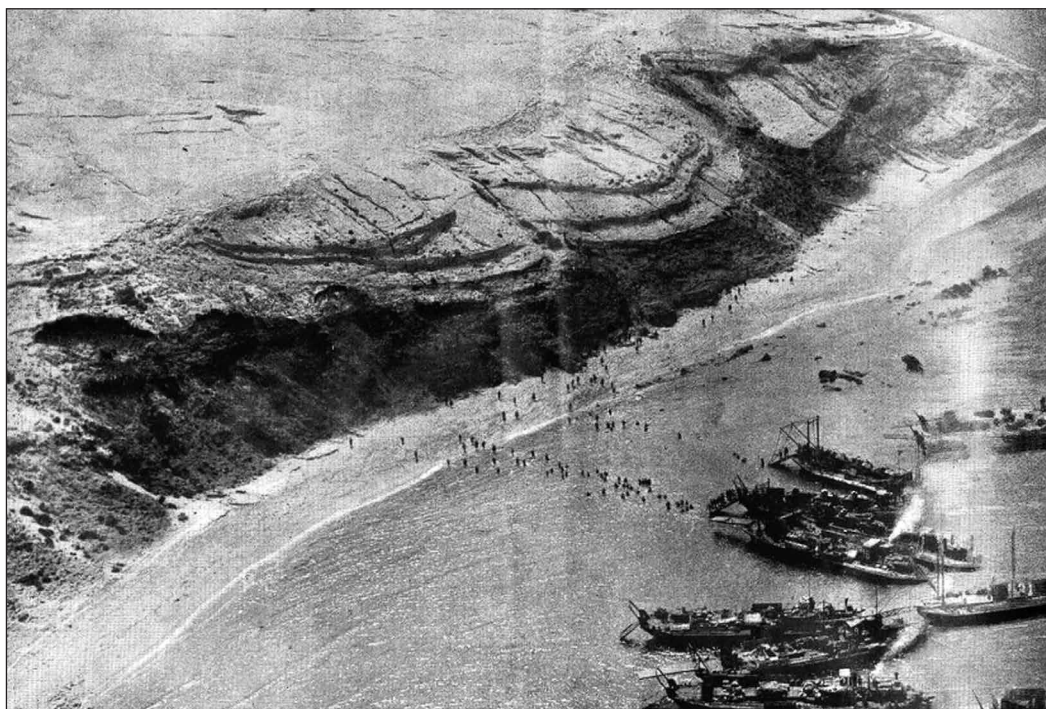
In addition to conventional weapons, bombs containing mustard gas were also dropped by Bristol Fighters of the Spanish Military Aeronautic service: when related reports became known in Europe and the USA this caused a public uproar, completely backfiring.²¹ The Sharifian Squadron – which had flown 470 combat sorties, logging 643 hours in six weeks of its involvement (or up to five sorties a day) – was quietly disbanded, as a consequence, in November 1925.²²

Despite this setback, the offensive went on, resulting in more than a year of often bitter and certainly bloody battles. The Rif War ended only in late July 1927, when Abd al-Krim capitulated in his last headquarter, in Targuist, and was forced into exile by the French.²³

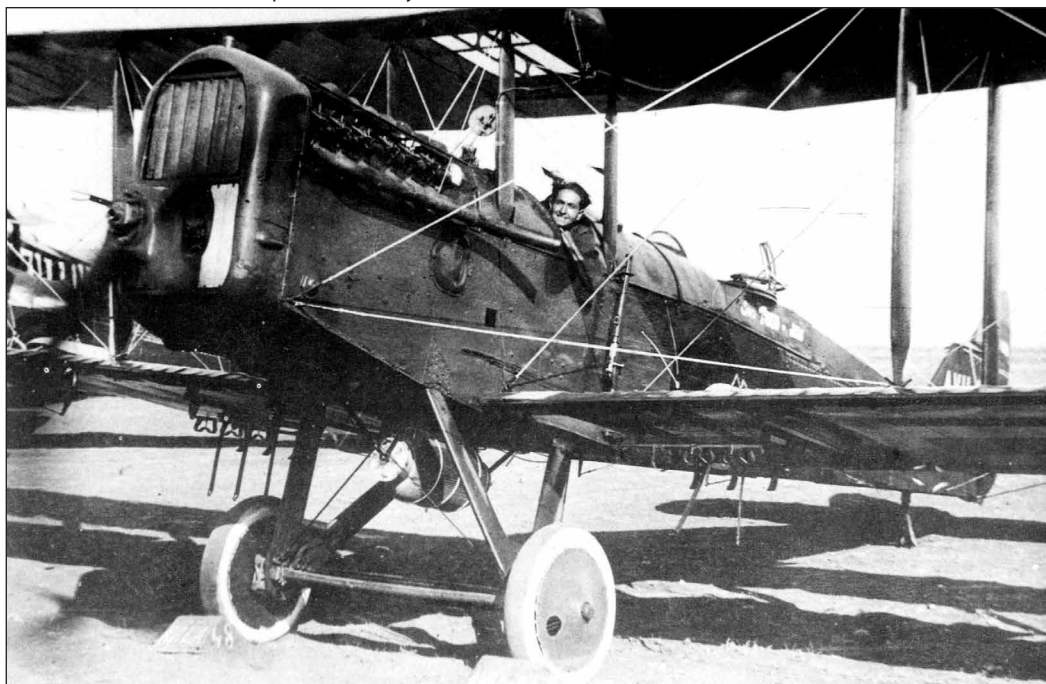
Independence of Morocco

Between 1914 and 1945, hundreds of thousands of Moroccans – mainly Berbers – served with distinction in the French Army in Morocco and elsewhere abroad, but especially in metropolitan France. While thus providing a significant contribution to at least two major efforts of France, the new Sultan Sidi Mohammed V (on the throne since 1927), gradually began developing an anti-French stance. Amongst others, he refused to implement the anti-Jewish measures insisted upon by the Vichy French authorities when these moved in, in 1940. Indeed, by the time he met the US President Franklin D Roosevelt, Mohammed V had become outright infected with anti-French sentiment. Already during the same year, an independence movement was founded that eventually developed into the Istiqlal Party – a far-right nationalist movement. Of course, the French promptly arrested all of its leaders, accusing them of being ‘pro-Nazi’.

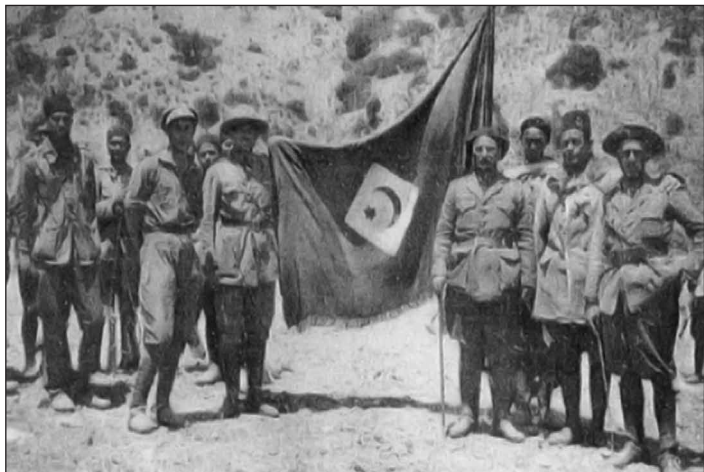
Starting with 1947, Sultan Mohammed V reinforced his resistance to the French colonial authorities through refusing to sign a number of imposed decrees intended to place French citizens in municipal elected bodies. The long-simmering crisis reached its high point in December 1950, when the Moroccan Council of Government walked out on the



An aerial photograph of the Spanish amphibious landing in the Alhucemas Bay, in May 1925. This was the first ever operation of this kind including not only ships and ground troops, but also tanks and aircraft. (Biblioteca Virtual de Prensa Historica/Spanish Ministry of Culture)



A de Havilland DH.4 of the 3rd Squadron of the 3rd Group of the Spanish military aviation as deployed during the Rif War. (Albert Grandolini Collection)



Spanish troops with a captured flag of the Rif Republic. The latter was all in red, with a white rectangle in the centre, including a red crescent and a star. (Mark Lepko Collection)



In June 1959, the EC.8 replaced its Mistrals with Dassault Mystère IVA fighter jets – a row of which can be seen on this photograph taken at their base, Rabat-Sale (Jean Louis Dunoyer Collection)



The SE.535 Mistral was the French-made version of the legendary de Havilland Vampire jet fighter. At least two squadrons of these from the wing EC.8 were deployed in Morocco in 1955, during tensions with Spain. This example is seen armed with a US-made 500lbs (250kg) bomb. (Jean Louis Dunoyer Collection)



A pair of Mystère IVs from EC.8 underway over Rabat-Sale AB in 1960. By this time they were a part of the French contribution to NATO's defence of the USAF/SAC bases in Morocco. (Jean Louis Dunoyer Collection)

French governor, leaving the latter without a choice but to accuse Mohammed V of supporting the Istiqlal against his rule. The French deployed their troops and Berber tribesmen to surround his palace and bring the Sultan under control: indeed, they instigated Berber efforts to depose Mohammed, or at least give some of his traditional powers to a council composed of Moroccan ministers and French directors. Not only did none of this work; on the contrary, the Sultan refused to cooperate and the French deported him to Madagascar in August 1953. This decision backfired in particularly spectacular fashion: over night, Mohammed V became a national hero.

As thousands of Moroccan nationalists found refuge in the Spanish Protectorate and the Spanish Sahara, many of them turned to arms. Paris accused the government in Madrid – which was already known for its diplomatic support of the Algerian nationalists, and for selling arms to Egypt and Syria – of not only tolerating the insurgency but also of supporting it logistically.²⁴ The tensions reached their high point in January 1954, when Madrid



A row of Strategic Air Command's B-47s at the Sidi Slimane AB, as seen in 1958. This was one of four major bases used by USAF strategic bombers until 1963. During the same period, it was also a home base for F-86Ls of the 324th Fighter Interceptor Squadron. (USAF photo)

refused to officially recognize Sultan Moulay Ben Arafa, appointed by Paris, and threatened to secede its part of the protectorate from the French. Paris reacted by putting its military on full alert: while Army troops conducted a series of search-and-destroy operations along the border to Spanish Morocco, the French Air Force (*Armée de l'Air*, AdA) deployed detachments of the North American T-6D Texan-equipped Light Attack Aviation Squadron (*Escadrille d'Aviation Légère d'Appui*, EALA) 4/72 to Oudjda, Rabat, Marrakesh, Agadir, Tindouf and Meknes. The Texans flew reconnaissance, and occasionally strafed insurgent positions, which were also regularly

hit by Sud-Est SE.535 Mistral fighter jets (the French version of the de Havilland Vampire jet fighter) of the Fighter Wing (*Escadre de Chasse*, EC) 8, based at Rabat. Aircraft from diverse French training units were occasionally engaged in attack missions. These included de Havilland Vampire F.Mk 5s and Lockheed T-33As of the Tactical Fighter Weapons School at Meknes, and the Morane-Saulnier MS.475s of the reserve training squadron CER.309. Finally, the French navy deployed its aircraft carrier *La Fayette* off the coast of Ceuta.

Although suffering heavy losses, the nationalists not only remained persistent, but also grew more and more popular among their countrymen – even more so once the outbreak of the liberation war in Algeria, latter in 1954, added to France's colonial problems and then, in 1955, various local militias in southern Morocco grouped into The Army of Liberation (LA), to launch another uprising against the French. While their military fought back and successfully sealed both borders with Spanish Morocco, eventually even the politicians in Paris were forced into realization that the game was lost. They recalled Mohammed V from exile to Morocco and the country was finally released into independence, on 2 March 1956.

Independence of Mauritania

Soon after releasing Morocco into independence, Paris realized that it would have to do the same in the case of Mauritania. This country was a former French colony that derived its name from the ancient Berber Kingdom of Mauretania, existent during the same period as the Roman Empire. The territory was gradually absorbed by France, starting in the late 19th Century, through a combination of strategic alliances with Zawiya tribes, and military pressure upon the Hassane warrior nomads. The Mauritanian emirates of Trarza, Brakna and Tagant subjected themselves to the colonial power in the period 1903-1904, but the Emirate of Adrar in the north held out until 1912, when it was incorporated into a territory officially declared as French West Africa in 1920.

Mauritania was declared an overseas territory (administered from Saint Louis in Senegal) of the French Union in 1946. By then, a growing number of indigenous Sub-Saharan African people entered the area, and – in cooperation with the French military – began suppressing the intransigent Moorish-Arab-Berber majority (about 80% of the population). Combined with the fact that up to 20% of Mauritanian population remains enslaved until this day, this changed the former balance of power and caused a number of inter-communal conflicts, most of which remain unresolved to this day.

The Islamic Republic of Mauritania was proclaimed as an independent state on 28 November 1960 – in spite of fierce protests from Morocco: as usual, the Istiqlal Party claimed this territory for Morocco as early as of 1957, and this standpoint was then adopted as official policy of Mohammed V, once he declared himself the king. The dispute was exacerbated by the discovery of rich iron ore deposits in the Fort Gouraud area (F'derik since independence), and Mauritanian claims over Spanish Sahara. The government in the local capital Nouakchott found itself exposed to additional – and ever more frequent – Moroccan verbal attacks once it came to the idea to claim the Spanish Sahara for itself. Indeed, following Mauritanian independence, King Mohammed V and Crown Prince Hassan began secretly planning an invasion of the country. While certainly a highly interesting 'what if' scenario, such an operation was never really feasible: Morocco not only lacked the means to run such an enterprise by air or the sea, but an invasion was impossible also due to the presence of colonial forces in the Spanish Sahara.²⁵



Mukhtar Wald Dadah (second from left), the first Prime Minister of independent Mauritania seen in front of the only C-47 left behind by the French on independence of his country. (Albert Grandolini Collection)

Liberation War in Algeria

Conquered by the French in 1830s, as of the 1950s, Algeria, the fourth major player in the future war over Western Sahara, was considered 'France Overseas'. Officially confirmed in the French constitution of December 1948, this was a technicality in which many Frenchmen believed passionately, if not outright fanatically. However, only one tenth of Algeria's population of about eight million, in the 1950s, held French citizenship rights or significant property: about 900,000 French settlers – *pied noir* ('black foot' a term for Algerian-born persons of European ancestry) – farmed the best land, enjoyed a virtual monopoly of political power, and imposed their own educational, economic and administrative systems upon indigenous population. Unsurprisingly, an insurgency began on 1 November 1954 with a series of attacks against French military outposts and the *pied noir* carried out by guerrillas of the National Liberation Army (*Armée Nationale de Liberation*, ANL), the armed wing of the National Liberation Front (*Front de Libération Nationale*, FLN).

Recovering from the catastrophic defeat in the colonial war in Indochina, the French military was determined to win this war, regardless the cost. Understanding itself as a 'bastion of Western civilisation', and the Algerian insurgency as the latest in a long line of 'leftist revolutions that were sweeping the world since communist victory in the Chinese Civil War of 1950', it responded with ruthless prosecution of insurgents and activists. Actually, although some of the weaponry they received via Egypt and other sources was of Soviet and Chinese origin, the FLN was almost exclusively a nationalist movement: the Algerian Communist Party was no serious factor in this conflict.

Ignoring such 'trifles', the French military went into action with unprecedented determination and vigour – even when there was next to no public support for 'another war' at home, especially because young conscripts were sent to fight for a matter many of them did not believe in. By February 1955, most of the nationalist leaders were dead or in prison, and their organisation in tatters. The ALN/FLN survived, but the war transformed into a barbaric showdown in which all parties involved foremost targeted civilians supportive of the other side – or those in disagreement with them. By 1959, the French military completely destroyed the underground network of activists and insurgents in the capital of Algeria in what was stylized as the 'Battle of Algiers'. However, when substantiated reports of widespread torture and disappearance of thousands of native activists were published in France, public opinion recoiled

in horror and any remnants of public support disappeared. As the government in Paris began wavering, the French military revolted and demanded the return of General Charles de Gaulle to power.

It is often said that the coup had succeeded. Actually, de Gaulle first won elections and thus returned to power, but then proved to be his own man: he not only showed no sympathy towards the officers involved in the coup but also refused to put himself forward as a champion of *Algérie française*. It was only afterwards that parts of the military leadership staged the ‘putsch of generals’.

Chapter 3

Ifni War

When France released Morocco into independence, Spain was reluctant to recognize the sovereignty of the new nation. It did so only on the condition of retaining enclaves of Ifni, Ceuta, and Melilla, and the islands of Alhucemas, Cañarinas, and Penon de Velez on the Mediterranean coast of North Africa. As of the mid-1950s, countries like Morocco and Mauritania were still under French control, and their claims upon the Spanish Sahara were easily ignored: Madrid thus retained this territory, too. Indeed, in order to make sure that these possessions would remain under its control, no matter what might happen, the Spanish government began reinforcing its military in northern Africa as early as of December 1955. This is how it came that the units of what was meanwhile the Spanish Air Force (*Ejército del Aire*, EdA), became involved in combat operations in this part of the world again.

Spanish Air Force of the 1950s

Officially established as an independent branch of the Spanish military in November 1939 (after the conclusion of the Spanish Civil War), the EdA of the mid-1950s was organized into five air regions and three overseas air zones. Each region or air zone had its own air staff, and included operational units, and training establishments, and various ancillary services and establishments. The basic tactical unit was a squadron (*grupo*) of 12 aircraft, several of which formed a wing. While independent from other branches of the military, the EdA had arrangements with the Army and the Navy according to

Supported by the public, and although facing continuous unrest, assassination attempts and additional coup plots, de Gaulle then opened negotiations with the insurgents with the intention of decolonizing Algeria. Amid outright orgies of violence in Algeria, an agreement on the future of the country was reached at Evian in March 1962, granting it independence from 3 July of the same year under the Provisional Government of the Republic of Algeria, led by the FLN.²⁶

which its units could be assigned to either for specific duties.²⁷

The primary problem of the EdA in late 1940s and early 1950s was the block obsolescence of most of its equipment and the lack of engines for available aircraft. After the end of the Spanish Civil War, in 1939, the Spanish air force requested the domestic industry to obtain licence for diverse German aircraft designs, and manufacture these at home. Correspondingly, CASA entered negotiations with Heinkel, and was granted permission to manufacture 200 (ten batches of 20 aircraft each) He.111H-16 bombers at its factory at Tablada, Seville, and – later on – in Cadiz, in 1940. However, World War II came in between, and resulted in the lack of German interest in this enterprise. Correspondingly, the necessary tools and documentation were provided in on/off fashion, and setting up of the production progressed at a very slow pace. Furthermore, although CASA acquired the licence to manufacture these too, the Germans provided only a handful of Jumo 211F-2 engines, and few propellers for them. Thus, the first three aircraft wearing the designation 2.111 were ready to enter service with the EdA only in 1945, and even then were equipped with improvised engines expected to survive a mere 30 hours on average. Six additional Heinkels were built and flown by 1946, before CASA ran out of engines and propellers: by 1950, about 50 airframes had to be stored at Tablada for this reason.²⁸

Something similar was valid for another major aircraft-manufacturing project from the same period: in 1942, the Spanish government arranged a manufacturing licence with Messerschmitt



Hopelessly obsolete by the mid-1950s, the C.2111 still formed the backbone of the EdA's light bomber force, and thus also played the crucial role during the Ifni War. (EdA)

AG for the Hispano Aviación SA to produce 200 Messerschmitt Bf.109G-2 fighters, and DB.605A engines. However, because Germany proved incapable of meeting even its own needs, it failed to deliver any of the necessary power-plants. Therefore, the Spaniards installed the Hispano-Suiza 12Z engine. Designated Me.109J by Messerschmitt and HA.1109-J1L by Hispano Aviación, the first of the resulting aircraft made its maiden flight on 2 March 1945. A further 24 were manufactured and flown in the period 1947-1949, but never became operational. An improved version, powered by the Hispano-Suiza HS.17-12Z engine, and having a three-bladed propeller of British design, was first flown in 1951, and produced in a series of 65.²⁹

After the end of the World War II, the Spaniards launched a strenuous search for aircraft engines – and Jumo 211s in particular. Just when a stock of 500 was discovered in Poland, and a related deal arranged with the Soviet Union and Sweden, in 1949, a major affair erupted when the British-Spanish deal for the procurement of British-made Cheetah engines was revealed in public. As a consequence, the government in London imposed a blockade on the export of engines to Spain. According to official Spanish documentation, another stock of engines may have subsequently been discovered in Nevers, in France: whether such reports were true, or the Spaniards managed to arrange for the delivery of engines from Poland, or from Germany via an Austrian intermediary, remains unclear: what is certain is that by 1955 a total of 334 additional Jumo 211F-2s and a similar number of propellers had reached CASA's Tablada factory. With the help of these, a total of 117 aircraft in three variants – C.2111-A (medium bomber), C.2111-C (reconnaissance bomber), and C.2111-F (dual-control trainer) – were assembled and rolled out during the early 1950s.³⁰

Unsurprisingly considering such conditions, for most of the 1940s and early 1950s, the Spanish air force struggled against discouraging odds to keep its first-line aircraft at least in the state of airworthiness. Lack of spares and shortages of fuel were widespread, and severely limiting the amount of flying that could be undertaken. Indeed, by late 1952 the EdA was – for all intents and purposes – barely vegetating: while having a nominal strength of 16 fighter, bomber, and mixed squadrons, with nearly 2,000 pilots for about 650 aircraft, and although provided with up to 50 new airframes every year, it was so short on spares and engines in particular, that barely a handful of aircraft were airworthy.³¹

A recovery began only once the British blockade was lifted in 1951. Hispano Aviación then promptly acquired 150 surplus Rolls-Royce Merlin 500-45 engines and Rotol propellers, and launched a project to adapt these to the Bf.109/Me.109 design. Thus came into being the HA-1112-M1L *Buchón* (Pouter), which first flew on 29 March 1954. A total of 172 *Buchóns* were manufactured in total: all were armed with two 20mm Hispano-Suiza HS.404 cannons, and eight launch rails for 80mm Hispano-Suiza unguided rockets, and intended to serve in Spanish overseas possessions. In similar fashion, in April 1956, Spain acquired 173 Rolls-Royce Merlin 500-20 engines from Great Britain: these were used to re-engine 117 of CASAs C.2111s.³²

More importantly, on 26 September 1953, Spain signed a defence treaty with the USA. This not only provided for the training of Spanish air and ground-crews by the US military, but also the provision of modern, jet-powered aircraft, as well as machine tools and other equipment for local industry. Further US aid – provided in exchange for permission for the US Air Force (USAF) to make use of air control facilities at Villatobas, Constantinaz, Rosas, Benidorm, Inoges, Goramakil, and Soller, air bases of Torrejón de

Ardoz, Morón de la Frontera near Seville, and Naval Air Station (NAS) Rota outside Cadiz – enabled the EdA to also make a large number of existing older aircraft operational again. Between 1955 and 1957, the Americans literally flooded the Spanish air force with about 200 North American F-86F Sabres, 30 Lockheed T-33A jet trainers, 120 North American T-6D/G Texan basic trainers, 15 Douglas C-47 transports, 5 Grumman HU-16A Albatross air/sea rescue amphibians, and numerous Sikorsky H-19 Chickasaw and Bell Model 47G helicopters. Furthermore, US aid enabled local industry to re-start the production of Bückers Bü.131 Jungmann primary trainers (as CASA 1.133), and launch a number of other projects.³³

Southern March of the Liberation Army

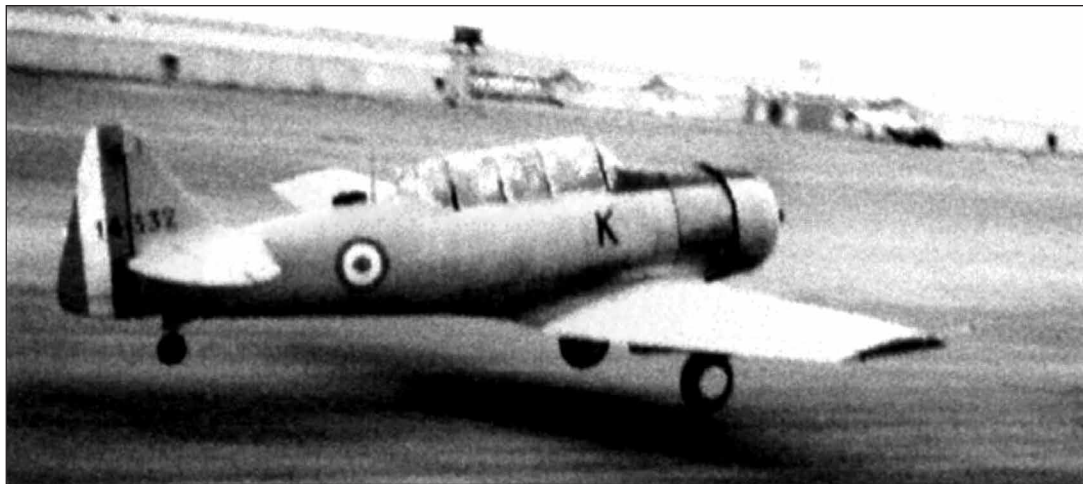
The EdA was thus in the middle of a major recovery process when, in December 1955, it was put on alert for possible action in Spanish Morocco and the Spanish Sahara. The reason for the mobilisation of the Spanish armed forces was the activity of the Liberation Army in the months before and after Moroccan independence. Certainly enough, a significant part of the insurgent force was pacified once Rabat regained control over the nation, and even integrated into the Royal Moroccan Army (*Forces Armées Royales*, FAR), in 1956. However, the majority of insurgents were left on their own: they continued carrying arms and, indeed, many of them had regrouped in the southern Agadir province, effectively brining that part of the country under their control. From their main base in the town of Goulimine, they began infiltrating Ifni and claiming its territory as a part of Morocco. Others of their group moved into the Tarfaya Strip and then into the Spanish Sahara, where they began recruiting amongst the Sahrawi tribes, too.

Upon being put on alert, the first reaction of the High Command of the Spanish air force was to put all the units deployed within the operational zone under the command of the Aerial Zone of Canary Islands and Western Africa (*Zona Aérea de Canarias y África Occidental*, ZACAO). ZACAO was headquartered at the Gando Air Base (AB) on the Canary Islands, which was also the home base of the 36th Wing, equipped with CASA.352s (Spanish-built Junkers Ju-52/3m), HU-16 amphibians, and Sikorsky H-19 helicopters.

For a while at least, tensions continued to increase, but no fighting erupted. The situation experienced a dramatic change only in April 1957, when anti-Spanish demonstrations erupted in Ifni and several Spaniards were murdered. Madrid reacted by promptly deploying two battalions of its Foreign Legion to Ifni, and two others to the Spanish Sahara, but also with the decision to reinforce the 36th Wing. Therefore, the 25th Light Bomber Squadron of the 29th Group, home-based at Tablada AB (Seville), received the order to deploy its C.2111s to Villa Cisneros airport, in May 1957. For most of the following summer, its aircraft patrolled the border between Morocco and the Spanish Sahara. However, while at least one was fired upon, and one bomber crashed into the sea in bad weather on 11 August 1957, the unit saw no serious action. Correspondingly, in September it was ordered to return to Spain – though not before it had to leave a few of its aircraft behind to form the nucleus of the newly-established 29th Light Bomber Squadron of the 36th Wing.³⁴

Prequel in Mauritania

As the insurgency of the LA continued spreading through the Spanish Sahara towards south, it reached northern Mauritania, too. Combined with well-known Moroccan irredentism, this caused serious concerns in Paris – even more so once it became known that the Liberation Army was setting up forward bases inside the



A T-6G of the EALA.5/73 as seen landing at Atar airfield, in northern Mauritania, in February 1958. (Michel-Ivan Louit)



The Nord 2501 Noratlas had barely entered service by the time it saw its first combat action in the course of Operation Ecouvillon. This example was photographed after landing at one of the typical airstrips in the desert. (Albert Grandolini Collection)



A detailed view of an Amiot AAC.1 Toucan of the GSRA.78 'Tindouf', as seen during the forward deployment to Mauritania, in early 1958. (Jean Louis Dunoyer Collection)

Spanish Sahara and in southern Algeria. Although mid-way through the process of handing over their responsibilities to the authorities of the nascent nation, the French quickly reinforced their military contingent in Mauritania. In July 1956, the locally-deployed Army contingent was increased from 1,260 to 2,160. These troops were directly supported by 14 Piper PA-22 Tripacers of the 1st GALTOM (observation squadron) of the French Army Light Aviation (*Aviation Légère de l'Armée de Terre*, ALAT), based in Dakar. At least as important were reinforcements subsequently deployed by the AdA: the EALA.1/73 arrived in Bamako (then French Sudan, later Mali),

while the EALA.5/73 arrived at Atar, in northern Mauritania. Furthermore, two colonial police squadrons – EOM.81 and EOM.82, equipped with about a dozen Dassault MD.315 Flamant light transports each – and a composite transport unit (GLA.48, equipped with Amiot AAC.1 Toucan transports, C-47s, and Dassault MD.312 Flamants) were all based at Dakar-Ouakam airport, in Senegal.

The insurgents did not let the French wait for them very long. Between May and July 1956, they carried out a series of hit-and-run attacks on French outposts in the area of Oum el-Achar. In January 1957, the LA ambushed a French Army patrol outside the Agui outpost, about 80 kilometres north of Atar. The AdA quickly reacted by scrambling a pair of T-6Gs: these found the insurgent column, including about 125 combatants mounted on camels, and strafed it repeatedly, eventually forcing it to stop and continue moving only by night. Nevertheless, five days later the column was located again,

meanwhile inside a canyon at Tegguel, 16 kilometres north of Atar. The French reacted by promptly embarking 140 paratroopers of the 3rd Company of the 4th Colonial Para-Commando Battalion (*Bataillon Parachutistes Commando Colonial*, BCCP) on five Nord N.2501 Noratlas transports that flew them from Dakar to Atar. Once on the ground, the para-commandos were trucked to the combat zone, before attacking during the following night. Leaving behind a small rear-guard, the insurgents managed to slip away, though only after losing five killed and twenty taken prisoner, in exchange for killing three and wounding three French troops.

The pursuit continued, and two days later 105 additional para-commandos from the 2nd Company 4th BCCP were deployed to the combat zone. Indeed, following an intensive search for the enemy, T-6Gs of the AdA managed to pinpoint and report the insurgent bivouac on the hilly plateau at Ameillag, just inside the Spanish Sahara. Ignoring geographic nuances, the French decided to go in. As first, they encircled the area with ground troops supported by M8 armoured cars. The following evening at dusk, para-commandos of the 2nd Company 4th BCCP made a combat jump from five N.2501s barely 200 metres above ground level, straight into the enemy position. Despite the resulting hand-to-hand fight, and repeated strafing passes by two pairs of T-6Gs, the majority of insurgents managed to regroup atop a nearby hill, from where they escaped even deeper into the night before moving further into the – nominally – Spanish-controlled territory. Behind them, they left bodies of ten killed; the French lost three killed and two wounded.



A pair of C.2111s of the 25th Light Bomber Squadron, EdA, from Tablada AB (Seville), as seen at Villa Cisneros airport during their deployment in the Spanish Sahara in May 1957. Lower portions of their engine nacelles reveal them as powered by Merlin 500-20 engines. In Spanish service, the type was nick-named 'Pedro'. (Photo by Alfonso Elexpuru)

Cooperation with the Spaniards

Understanding that more similar action was likely to follow, on 14 February 1957 the French had discretely sent a negotiating team to Ifni. This requested the cooperation of the Spanish military authorities, including coordinated patrols on their side of the border between the Spanish Sahara and Mauritania, and obtained an agreement for French troops to cross the border when in hot pursuit of insurgents. Finally, the French warned the Spaniards about a group of LA insurgents that had infiltrated the area of Fort Trinquet. This warning came too late though for the French: on 14 February, the insurgents ambushed a motorized column searching for them inside a narrow canyon. Even T-6Gs that escorted the ground troops proved unable to help: the French unit lost 20 killed and 12 wounded before the survivors were able to extricate themselves.

In the light of this setback, an urgent conference of French military commanders in western Africa, presided over by the French Joint Chief of Staff in person, took place in Tinduf, in Mauritania, on 23 February 1957. Amongst others, this resulted in the decision to further reinforce army units already present in the area. Furthermore, the commander of the AdA in Algeria was ordered to prepare several of his units for re-deployment to Mauritania if necessary. Next, General Gabriel Bourgund, military commander of French forces in western Africa, travelled to Madrid, where he met the Government of the Spanish Western Africa, General Mario Gomez Zamalloa. Together, the two reached an agreement that granted both sides the right to pursue insurgents up to 60 kilometres beyond the border, while the AdA and the EdA were granted the right to operate up to 100 kilometres beyond the border. Furthermore, should the need arise, the French were granted permission to fly even deeper over Spanish Sahara, in order to support any of the Army of Africa's units in need. Finally, the French military decided to set up a Border Command Headquarters in Atar: this declared a 100-kilometre-wide strip inside Mauritania a 'free fire area' for crews of all military aircraft.

Assault on Ifni

Over the next few months, the French forces in Mauritania remained busy patrolling the border with the Spanish Sahara, while their intelligence services carefully monitored the activity of the Liberation Army. Because the latter operated a network of excellently placed informers, Paris was quick to find out that on 22 October 1957 a meeting took place in Rabat between Prince Mulay Hassan (future King Hassan II), and top commanders of the LA, during which an imminent insurgent offensive was discussed.

Indeed, only 24 hours later, about 1,500 combatants of the

Liberation Army had entered the Ifni enclave and occupied two villages within. Taken by surprise, the Spaniards reacted by putting all 3,391 officers and other ranks deployed there on alert, and ordering these into a counterattack.

As of 23 October 1957, ZACAO and the 36th Wing, EdA had at their disposal a total of 18 CASA.352s, 14 C.2111s, 2 H-19s and 1 HU-16. One of the CASA.2.111s was first into action: its crew reconnoitred the enemy position, eventually

identifying a force of about 1,500 insurgents. While their main push was easily stopped by Spanish troops, several outposts had to be abandoned, while a few others found themselves cut off and besieged. Furthermore, the small local airport was damaged by mortar fire. The EdA went into action on the next morning. However, the first CASA.2.111 to attempt bombing insurgent positions was damaged by ground fire and barely managed to return to base. Therefore, the Spanish air force appeared in strength over Ifni only on the morning of 27 October, when its CASA.2.111 bombed the Tanguezo area, east of Ifni: nine bombers from the 29th Light Bomber Squadron were involved, of which three served as pathfinders and only dropped smoke bombs to mark the target zone. After crossing the coast, the pathfinders dove to an altitude of only 152 metres (500 feet), while their bombardiers sought for the enemy camps. The six bombers then dropped twenty 50kg bombs each from an altitude of 913m (3,000 feet). The post-strike reconnaissance revealed that this air strike caused next to no damage: the bombs spread widely over the rugged terrain below, and their weight was too small. Such shortcomings were to continue plaguing the EdA's units for the rest of this campaign.

Undisturbed by Spanish air power, the LA reacted by opening a general attack on Ifni. Under pressure, ground forces fell back from their outlying posts towards the town – a strategy often applied inside the Spanish Sahara in the following days too: there, aerial reconnaissance discovered several large concentrations of the LA, including 700 in the Tafudart area, and another 1,200 around Bir Hassan. Correspondingly, while the navy began evacuating civilians, on 3 November, the garrison of Tan Tan pulled back towards Cap Juby, that in Smara to el-Aaiún, and the one in Aussert towards Villa Cisneros. The EdA deployed six CASA.352s to help: covered by CASA.2.111s that patrolled the skies over withdrawing columns, these dropped 12,400 kilograms of supplies for the troops and civilians marching below.

Operation Aquila

However, the decision to evacuate the Europeans caused panic within the Army of Africa. Hard on the heels of the civilians, the Spanish military began withdrawing unnecessary officers and NCOs too, in turn shattering the morale of the remaining native troops: many deserted their posts, while others switched sides. As so often before and after, the French were the first to react. On 1 November, AdA dispatched Colonel Cuffaut to Villa Cisneros, with an 'interesting offer' for Spanish commanders: the French were ready to 'lend' 12 T-6Gs, currently present at Fort Trinquet, in Mauritania. All the Spanish needed to do was to dispatch pilots to pick them up! Of

course, should the Spaniards accept such an offer, these would have all of their national markings painted out.

Taken aback by this proposal, and lacking the pilots needed, the Spaniards turned it down. The reason was that their military commanders considered it necessary, because they were in the final stages of preparing Operation *Aquila* – the aim of which was to reinforce isolated enclaves in Spanish Morocco and the Spanish Sahara. Correspondingly,

warships and transports of the Spanish Navy (*Armada*) loaded with artillery pieces,

M8 armoured cars, and a few M24 Chaffee light tanks were already underway from the metropolitan ports, while the EdA was ordered to re-deploy 13 C-47s of the Getafe AB-based 35th Wing to Gando, alongside four Bristol Freighter 170s of the Aviaco Airline: these were to help fly in troop reinforcements.

Operation *Aquila* was launched on 5 November 1957, when a formation of nine C-47s transported a company of the Spanish Foreign Legion from Getafe to Cap Juby (the flight lasted five hours and included a refuelling stop at Gando AB). Over the following six days, EdA transports then flew in another 1,218 troops and 27,600kg of equipment to Africa: 587 of the troops were deployed to Cap Juby, and 633 to el-Aaiún. By 30 November, CASA.311s of the EdA deployed 1,193 additional troops – including 360 crack paratroopers – to Ifni.

Although the situation in the Ifni enclave was thus stabilized, it remained serious enough for the Governor of the Spanish Western Africa, General Mario Gomez Zamalloa, to arrange a conference with his top military commanders – including the commander of ZACAO, General Fernandez Longoria – at Sidi Ifni, on 14 November 1957. During that meeting, the latter informed everybody else, that the EdA was in the process of bolstering its force of involved CASA.352s to 30, but also that a squadron of HA.1.112Ls and armed T-6Ds were about to deploy to the combat zone. Nevertheless, all of that took place, and meanwhile the fighting in the Ifni enclave continued. On 18 November, one of the CASA.2.111s involved in providing close air support for the ground troops suffered an engine failure, and crashed. Two days later, another was damaged by ground fire after discovered a large insurgent group in the area of Raudat el-Hach: the same was then bombed by six bombers that deployed a total of 120 50kg bombs on 21 November 1957.

Spanish Close Air Support

Meanwhile, the situation was much more critical in the Telata area, where a platoon of Spanish Army troops sent to relieve the Fort of Tiliun was ambushed while still en route, and forced to entrench itself. This unit had to be reinforced by 75 parachutists dropped by five CASA.352s in Operation *Pannelo*, on 29 November 1957, while five C.2111s bombed nearby insurgent positions, and a single CASA.352 dropped supplies and ammunition. This crisis was solved on 3 December 1957, when the 6th Battalion of the Spanish Foreign Legion broke the siege and evacuated surviving troops to Ifni.³⁵



One of two Nord 2501 Noratlas transports of the AdA loaned to the EdA, and deployed to Gando AB in support of the Spanish troops during Operation *Aquila* in November 1957. Although retaining its French markings, all tactical codes had been deleted to hide its origin. (Albert Grandolini)

In the meantime, the garrison of Ifni – meanwhile reinforced to a strength equivalent to four battalions – was ordered to relieve the pressure upon this enclave through a counteroffensive. Run as Operation *Netol*, this began on 1 December 1957. The EdA did its best to support this effort. However, it had no forward air controllers (FACs) deployed in the enclave and its coordination with ground forces was rather poor: indeed, most of the air strikes had hit fixed targets located by the air force's reconnaissance a day earlier. Despite such shortcomings, the ground troops advanced in the direction of the outposts of Bingta, Arbaa de Mesti and Tiliun. This effort was supported by at least six C.2111s, but was generally run in a very cautious fashion, and thus advanced very slowly. On 2 December, the bombers attacked a group of about 600 insurgents in the Tagulaza area, but a day later a major jump of paratroopers had to be cancelled due to bad weather. On 4 December 1957, one of the Heinkels was hit by fire from a 20mm flak battery of the Moroccan Army when flying outside the Ifni enclave, but the pilot managed to return it safely back to the Canary Islands. Eventually, the Spanish columns found themselves facing strong resistance and thus on 5 December the decision was taken for all of them to return within the defence perimeter.

Operation Gento

Something similar happened when another column launched a foray towards the abandoned outpost of Tingsa – Operation *Gento* – later the same day. Correspondingly, on 6 and 7 December, the EdA's C.2111s flew a series of all-out air strikes, heavily bombing insurgent positions facing this unit. Although the effects of their attacks remained very limited due to the rugged terrain and often fierce ground fire, they continued attacking even after hitting friendly ground troops by mistake, and killing four paratroopers. The column running Operation *Gento* eventually punched through, late on 7 December, but then run into another strong insurgent position, about 20 kilometres east of Ifni, on the next day.

By then, the situation was considered serious enough for the Spanish commanders to arrive at the decision to deploy 320 paratroopers of the EdA's 7th Para Squadron. The paras made a jump from 14 C-47s and 3 Freighter 170s, on 9 December 1957. Several of the aircraft involved were hit by ground fire, but none went down: to the luck of EdA's aviators, the insurgents lacked heavy machine guns. Once on the ground, the paratroopers helped

stabilize the situation. Nevertheless, Operation *Gento* thus had to be cancelled short of reaching its aim.

Cooling Down

Elsewhere in the Spanish Morocco and the Spanish Sahara, the situation was at least as serious, and the activity of local garrisons was limited to only run sporadic patrols outside their defence perimeters. Concerned about this, Madrid then officially accused Rabat of tacitly supporting the LA by 'tolerating' the main insurgent base in Agadir and supporting their re-supply efforts. Correspondingly, on 7 December, a task force of the *Armada's* warships demonstratively sailed off the coast of Rabat before continuing in southern direction: in this fashion, the Spaniards signalled to the Moroccan government their intention to launch an amphibious assault on insurgent bases. The Moroccan government responded that such an action would be considered an act of war: this prompted Paris into an attempt to mediate; after all, the Agadir garrison and its coastal batteries, was not only defended by Moroccan troops, but also by several French advisors. Eventually, the LA ceased its attacks and the tensions in the Ifni area gradually calmed down – although the situation inside the town remained precarious.

Meanwhile, the position of Spanish garrisons in the Spanish Sahara remained as critical. Especially the route linking the beach of Huisi Atoman – where equipment and supplies were landed from transport ships – with el-Aaiún was subjected to regular ambushes. Correspondingly, the EdA redirected most of its C-47s and CASA.352s to ferry in supplies and reinforcements. Furthermore, its bombers regularly raided LA's strongholds in Tan Tan, Aurach, Agracha, Tafudart, and Sidi Ahud Larosi. Between 18 and 22 December, the Liberation Army retaliated with a series of nocturnal attacks on the forward defence lines of the Spanish perimeter around el-Aaiún. This prompted the local commander into action: on 22 December, one of his motorized units managed to encircle a group of insurgents in the Messeied Oasis, and this was then subjected to heavy air strikes by C.2111s. This, however, remained an isolated exception: generally, the fighting subsequently lost much of its intensity.

By the end of the Year 1957, the garrisons in the Spanish Sahara were safe. Nevertheless, they all remained besieged and had to be resupplied by ships of the *Armada*. Overall, the Spanish air force performed a total of 830 sorties between 23 November 31 December 1957, including 88 reconnaissance, 21 liaison, 571 transport, 137 bombing, 5 sorties that resulted in jumps of paratroopers, and 8 sorties dedicated to evacuation and search and rescue operations. Its transports had carried 3,225 passengers and delivered 222 tonnes of supplies, while dropping 75 paratroopers and evacuating 99 casualties. CASA.2111s had dropped a total of 1,688 50kg bombs.

Rushed Planning

Eventually, the government in Madrid came to the realisation that the only way to break the stalemate was through an operation coordinated with Paris. The French accepted the idea, but insisted the operation in question – code-named *Ouragan* – to be kept low-profile in the public. A corresponding agreement was reached on 6 January 1958, when the decision was taken to run this enterprise in two parts: the French Operation *Ecouvillon* – actually underway already since late 1957 – included advances by about 5,000 troops from bases in Algeria and Mauritania; the Spanish Operation *Teide* included a general counter-offensive by about 9,000 Spaniards out of all of their garrisons in Ifni and the Spanish Sahara. In comparison, their intelligence reports indicated the presence of about 1,500 LA's

insurgents in the Ifni area, 2,500 in the northern part of the Spanish Sahara, and 1,200 in the southern part.

Fearing adverse public reaction at home and abroad, and understanding that the summer heat – starting already in March – would strain involved troops and significantly increase supply problems, both parties quickly agreed that they were involved in a race against the time: the intervention had to be concluded very quickly.

Correspondingly, both the French and Spanish staff – led by Generals Bourgund and Vasquez, respectively – devised a plan of action that was to last for no longer than 15 days: therefore, all the involved commanders were advised to act quickly and decisively. Final details were agreed in the course of a meeting between two top officers at Las Palmas, on 14 January 1958. Correspondingly, the French were only to intervene in the Saharan Province, first in the north, then in the south. They insisted on good coordination and very specific procedures in communication between air and ground forces, and sent Major Lissarague – the Air Attaché in Madrid – to the ZACOA headquarters for this purpose. This French officer became instrumental in the establishment of an Air-Ground Command Centre at Santa Cruz of Tenerife, directly linked to the Capitancy General of the Canary Islands, which acted as the Spanish military headquarters. In turn, the Spanish had to contend themselves with the defence of the Ifni Enclave and their garrisons in the Spanish Sahara. To further cooperation, another conference was organized in Villa Cisneros, on 28 January 1958, between Colonel Cuffaut of the AdA, and Colonels Carlos Ferrandiz and Francisco Pina Alduni, – commanders of the EdA in the Spanish Sahara and the Ifni sector, respectively.

CAS: The Never-Ending Issue

In the course of all these conferences, the French became convinced that, despite the eagerness of their counterparts to make everything right, the cooperation between air and ground forces of the Spanish military was rather poor, depended on outdated and time-consuming procedures, and that very few of EdA's aircraft were equipped with radios that would enable them to communicate with ground troops.

When considering such French standpoints it should be kept in mind that the AdA of 1957 was a very combat-experienced, and – in comparison to just few years earlier – a massively reinforced service. Because the country joined NATO around the same time it fought the war in Indochina of the early 1950s, the French air force found itself badly hampered by insufficient budgeting and thus operating inadequate equipment during the earlier campaign. For example, the requirement to rapidly re-equip with a large number of jet fighters resulted in disbandment of all of their bomber units, and the lack of aircraft suitable for close air support (CAS). Correspondingly, and because Grumman F8F-1 Bearcat fighter-bombers proved insufficient, a bomber force was reconstituted through the loan of Douglas B-26 Invader bombers from the USAF to equip two squadrons: the Bomber Groups (*Groupe de Bombardement*, GB) 1/19 and 1/25.³⁶ Indeed, by the time fighting in Indochina ended, in 1954, the AdA had a well-balanced force deployed in the theatre of operations, including four squadrons of Bearcats, four squadrons of B-26s, four squadrons of C-47s, and four liaison units equipped with a miscellany of Morane-Saulnier MS.500 Criquets (French version of the legendary Fieseler Fi.156 Storch), Nord N.1101s, SNCAC NC.701 and NC.702 Martinets, Beech C-45s, Hiller UH-12 and Sikorsky S-55 helicopters.

Immediately after that war, the B-26s were returned to the USAF, some of the F8F-1s were passed to South Vietnam, and the



General Gomez Zamalloa (second from left) as seen at Smara, on 10 February 1958. (Photo by Michel-Ivan Louit)

remainder were sold to Thailand. Instead, the AdA began acquiring a number of new, nationally-designed aircraft types, including the Nord 2501 Noratlas transports and the Morane-Saulnier MS.733 Alcyon trainers. The uprising in Algeria prompted the French to retain piston-engined Republic P-47D Thunderbolt fighter-bombers for a while longer than originally planned, but by 1957 these were largely replaced by North American T-6 Texans purchased from surplus USAF stocks: their poor ground visibility, light armament, and vulnerability to ground fire were more than offset by their exceptionally high serviceability, manoeuvrability, and low cost. Indeed, in French service the T-6s were equipped with excellent radios, with the help of which their crews could communicate with ground troops and FACs.

That the French took great care to apply lessons from the Indochina War became obvious already during the Suez War of 1956, when Dassault Mystère IVs and Republic F-84F Thunderstreak fighters based in Israel and Cyprus flew intensive operational sorties in support of the airborne assault against Port Said, while Noratlases significantly contributed to the allied transport effort through making their operational debut. Furthermore, the uprising in Algeria prompted the AdA to re-acquire enough B-26s for two units, GB.1/91 Gascogne, and GB.2/91 Guyenne. As of late 1957, the former was based at Bone, in eastern Algeria, and the latter at Oran, in the west. While officially a 'light' bomber, the Invader was a big, powerful and relatively fast aircraft, packing a fearsome punch in the form of up to eight .50 calibre machine guns in the nose, underwing-installed unguided rockets, and up to 1,800 kilograms (3,600lbs) of bombs in the internal bay. In Algeria, they were used for level bombing but frequently flew dive bombing and strafing sorties too, especially when guided by the FAC aircraft – such as Cessna L-19s or Piper Cubs – that marked targets with white phosphorous markers. Another form of operations in which the B-26s excelled was patrolling so-called 'free fire zones': areas declared void of all civilians, in which no French ground units operated. Any movement on the ground detected by their crews was considered 'hostile', and could be fired upon without further questions.³⁷

On the top of this, the French took care to establish numerous units for transport, liaison, and search & rescue (SAR) in overseas



By early 1958, the AdA had nearly 300 T-6G Texans deployed in Algeria, and they formed the backbone of its CAS effort. Unsurprisingly, the type played a crucial role in Operation *Ecouvillon*, too. Notable is that many were painted in yellow overall: this example – from the EALA.5/73 – had no gun-pods installed and its rocket rails were empty when this photograph was taken. (Albert Grandolini Collection)

territories. For example, the liaison squadrons were established in Rabat (*Escadrille de Liaison Aérien* 46), Tunis (47), Djibouti (51), Algeria (53 and 54); liaison groups in Dakar (*Groupes de Liaisons Aériennes* 48), Congo-Brazzaville (49), and a Mixed Liaison Group 50 on Tananarive. Finally, two 'Sahara Reconnaissance and Attack Groups' (*Groupes Saharien de Reconnaissance et d'Appui*) – 76 and 78 – and a squadron with the same purpose (*Escadrille Saharien de Reconnaissance et d'Appui* 77) were equipped with AAC.1 transports (French-made version of the Junkers Ju-52/3m), while three Overseas Squadrons (*Escadrilles d'Outre-Mer*) and Overseas Group 86 (*Groupe d'Outre-Mer*) were equipped with Dassault's excellent MD.315 light transports, Bell 47G, Sikorsky S.55 and S.58, and Aerospatiale SE.3130 Alouette II helicopters.³⁸

As the requirement for CAS in Algeria continued to grow, so also the number of involved aircraft and units was significantly increased: although Paris introduced drastic cuts in defence spending in 1957, by early 1958, the AdA had 833 aircraft deployed in this territory. These included no fewer than 294 T-6 Texans, 121 Sud-Est SE.535 Mistral (the French version of the de Havilland Vampire jet fighter-bomber), 24 P-47Ds, 27 B-26s, 27 AAC.1s, 37 Dassault Flamants, 18 C-47s, 23 MS.500s, 37 Max-Holste MH.1521 Broussard light utility aircraft, 19 Bell 47s, 15 S.55s, 44 S.58s, and 19 Alouettes, plus a miscellany of about 100 other types used for liaison purposes. Indeed, it was during this war that the French air force mastered the techniques for CAS – including a good combination and excellent coordination between reconnaissance, bombing, gunnery, troop transport and deployment of paratroopers (increasingly by the means of helicopters, too).³⁹

For all practical purposes, the French in Algeria thus operated an air force that was custom-tailored for precisely such campaigns as the one they now planned to run in the Spanish Sahara. On the contrary, their Spanish allies lacked any kind of serious and recent combat experience. Thus, and in an attempt to remedy at least some of the expected problems, a decision was taken to set-up four Air-Ground Liaison Teams (AGLT) – at Villa Bens, el-Aaiún, Villa Cisneros and Sidi Ifni. Each consisted of several competent Spanish officers (including two instructors from their recently established Air Ground Operation School in Tàblada), advised by Captain Llopis from the AdA. Furthermore, French FAC-teams were assigned to several of the Army of Africa's units – although it was known that some of them could not communicate with their hosts properly due to the language barrier. Eventually, a solution was found when each party assigned an officer from their Indigenous Affair Bureau to each of the AGLTs: these communicated with local units in Hassaniya Arabic and then translated to their compatriots!⁴⁰



One of the B-26s (serial 43-227746) as seen in action in Algeria in the early 1960s. Operated by two squadrons, the type proved an excellent platform for CAS purposes in the late 1950s. (Albert Grandolini Collection)



A pair of MD.315 Flamants from GOM.86 underway low over the sand sea in south-eastern Morocco, in early 1958. The type was originally designed as a light transport and for training, but deployed for attack purposes – sometimes equipped with Nord AS.11 anti-tank guided missiles, too – quite early during the war in Algeria. (Jean Louis Dunoyer Collection)



Taken shortly before the start of the Operations *Ecouvillon-Teide*, this photograph provides a nice overview of one of the French B-26 Invaders, its crew, and the type's arsenal. The latter included heavy unguided 127mm rockets, napalm tanks, CBU-26s, and diverse general purpose bombs of 125, 250, and 500lbs. (Albert Grandolini Collection)

Even then, Major Lissarague remained convinced that the Spanish High Command was far away from mastering the art of providing CAS to the full capabilities of the EdA. Worst of all: while the commander of the garrison in Ifni, General Zamalloa, did his best to cope with all the working procedures of the air force, his equivalent in the Spanish Sahara, General Vazquez maintained rather tense

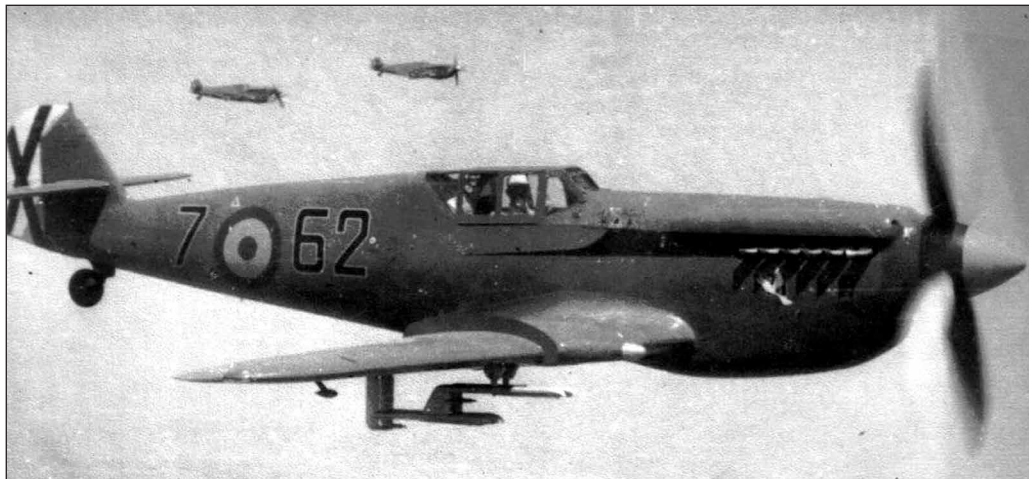
relations with the EdA, but also to the AdA. The French complained that he seemed not to understand even the bare fundamentals of the modern air power, and thus decided to run their CAS operations on their own – on the basis of their earlier experiences.

Intervention Force

In the meantime, a number of French military units were rushed towards the combat zone. Noratlas transports were used to fly in one of their colonial infantry battalions from Bouake, in Cote d'Ivoire, and the paratroopers of the 7th Colonial Paratrooper Regiment from Dakar. Douglas DC-4 airliners were used to ferry another infantry battalion from Bamako. Furthermore, they brought in an additional light attack squadron – the EALA.3/73 – from Mecheria, and the transport squadron GT.2/62 from Blida, both in Algeria. Finally, Invaders were drawn from both bomber squadrons in Algeria – the GB.1/91 and the GB.2/92 – to organize a detachment under the command of Major Bault for operations over the Spanish Sahara. Overall, the French air force thus mustered slightly over 70 aircraft, including 36 T-6Gs, 15 Douglas B-26 Invaders, 17 N.2501, and a miscellany of C-47s, AAC.1s, and MD.312/315s. Finally, the ALAT added about a dozen PA-22s that served as FACs, and a few Bell 47 and Sikorsky H-19 helicopters that served for liaison and medical evacuation purposes.

The EdA followed in fashion and significantly reinforced ZACAO. During January 1958, it deployed five H-19 helicopters of the 57th Search and Rescue (SAR) Squadron,

and 7 AISA I.115s and 1 Dornier Do.27 of its 100th Liaison Squadron to reinforce the 36th Composite Wing at Gando AB.⁴¹ Foremost, on 30 January, it flew 15 HA.112M1L Buchón fighter-bombers of the 71st Fighter Squadron (commanded by Major Comad Altadill) to the Canary Islands. For this purpose, each of them was equipped with a special external fuel tank, carried under



A rare air-to-air view of three Hispano Aviacion HA.112M1L Buchóns. Notable are two double launch rails for 80mm unguided rockets made by Hispano-Suiza under licence from Oerlikon, and the 20mm cannon installed on the inboard part of the wing's leading edge. (Albert Grandolini Collection)



Seven AISA I-115 primary trainers (officially designated the E-6 by the EdA) of the 100th Liaison Squadron were deployed as FACs during Operations *Ecouvillon-Teide*. (Albert Grandolini Collection)



These two Buchóns were written-off after colliding during take-off from a dusty runway of el-Aaiún, early during Operations *Ecouvillon-Teide*. (Albert Grandolini Collection)



Another Buchón damaged during Operation *Ecouvillon-Teide* was this example, that overshot on landing and hit a barricade consisting of empty fuel drums. Notable are the insignia of the 7th Wing, applied on the engine cowling, and the spinner painted in red and black. (Albert Grandolini Collection)

the centreline – designed by Hispano Aviacion specifically for this purpose. In order to aid their navigation, the fighter-bombers were led in by a C-47 transport. This formation was followed by 12 T-6Ds from the 33rd Attack Squadron (commanded by Major Lopez Serrano) – all armed with rails for Hispano-Suiza-made unguided 80mm rockets. The number of C.2111s was increased to 30 through the addition of aircraft from 291st and 292nd Squadrons: indeed, an entirely new unit – the 29th Bomber Wing – was established to operate just this type. By the eve of the joint offensive, ZACAO thus controlled a force of 30 C.2111

bombers, 30 CASA.352 and 22 C-47 transports, 15 HA.112M1Ls, 12 T-6Ds, 7 AISA I.115s, 1 Do-27, 6 H-19s and 2 HU-16 amphibians.

Spanish Deployment

Regardless of French reservations, in anticipation of Operation *Teide*, the EdA began forward-deploying its units to airports in Villa Bens and el-Aaiún, where all of the 15 Buchóns and 12 T-6Ds, all 7 I.15s and 1 Do.27, and also one CASA.352 and five H-19 helicopters were stationed. The airport of the Ifni enclave was considered too exposed and too small, and thus only four CASA.2.111s were initially deployed there, while the rest remained at Gando. One detail certainly did not change: despite repeated requests for other weights of bomb, the EdA remained unable to provide anything other than small weapons of 50 kilograms. Because of this, the ground crews at Gando AB modified their bombers to carry 81mm mortar bombs acquired from Army stocks. With each bomber being capable of carrying and unleashing up to 384 such weapons, they acted as a replacement for cluster-bomb units (CBUs). The only problem with such weapons was that in order to achieve any kind of precision, they had to be released from an altitude of only 300 metres (984 feet), which brought the aircraft carrying them well within range of ground fire.

It was, amongst others, such issues that prompted the Spaniards to place great hopes in their Buchóns. These flew their first operational sorties on 3 February, but quickly lost one when it struck a wind sock. Two others were written off when they collided while taking-off from a dusty runway. The Spaniards came to realize that their Merlin engines were not equipped with sand filters, which quickly reduced their serviceability. Finally, although actually perfectly armed to fly CAS they could not fly any missions as they lacked radios that would enable their pilots to communicate with the ground troops. As the subsequent developments were to show, only six HA.112M1Ls were available for combat operations on average each day. Unsurprisingly, and just like the French, the Spaniards thus found the T-6Ds much more suitable for supporting their ground troops: their good endurance enabled them to loiter over friendly troops at low speed for extended periods of time, while their unguided rockets were to prove as effective as those of the Buchóns.

Postponement

Operations *Ecouvillon-Teide* were originally scheduled for 6 February 1958. However, due to a sandstorm, they had to be postponed for

four days. Nevertheless, the AdA exploited this opportunity to fly intensive reconnaissance operations over the Spanish Sahara. Its T-6Gs and MD.315s thus roamed over all of the suspected enemy positions, occasionally strafing and rocketing these too. The insurgents fired back, and on 8 February an MD.315 was hit by ground fire over the area of Hagouina. On the next day, B-26s became involved too, by striking the LA's camps in the Tafudart area with 250kg bombs. Once again, they received fire, and one of the Invaders is known to have been hit while returning for a strafing pass. Another B-26 was damaged by ground fire during a low altitude strafing pass on insurgents in the Smara area. Elsewhere on 9 February, several of the French and Spanish-built Ju-52/3m transports dropped leaflets in Spanish, French and Arabic, warning of the impending offensive, while EdA's CASA.2.111s, HA.112M1Ls and T-6Ds rocketed targets in the Tafudart, Tan Tan, and Wallid Tigsert areas.

On 11 January 1958, an Algerian insurgent unit coming from Tunisia provoked a clash with French forces after which it was forced to withdraw behind the border. A few days later, a T-6 on patrol was shot down by anti-aircraft fire from Tunisian army units deployed in the Sakiet area, while another T-6 was badly damaged on 30 January. The French authorities issued strong warnings to the Tunisians, but to no avail: on 8 February 1958, a MD.315 was damaged by ground fire in the Sakiat area, too. A day later, six Vought F4U-7 Corsairs of the French naval aviation attacked known Tunisian anti-aircraft positions; immediately after, a force of eleven B-26s of the AdA bombed the local military base and several depots. However, numerous of their bombs missed and hit a school, a hospital and several civilian buildings, massacring up to 80 civilians, including women and children.⁴²

The reaction to this raid surpassed the wildest expectations in Paris: not only that Tunisian President Habib Bourgiba promptly ordered the evacuation of remaining French bases in his country, but the public uproar in France and international condemnations caused the shaky government to falter on 15 April. Thinking they would be accused of an illegal invasion, the French commanders involved nearly scrubbed the scheme for their operations in the Spanish Sahara and Spanish Morocco. However, Madrid remained persistent and thus Operations *Ecouvillon-Teide* were eventually launched.

Ecouvillon and Teide

Early on the morning of 10 February, Task Force Grall of the French Army – named after its commander, and comprising about 2,000 troops and 350 vehicles, spearheaded by M8 armoured cars – launched its advance from Fort Trinquet in the direction of Smara. At 1430hrs local time, six N.2501s, escorted by 12 T-6Gs, took off from Fort Trinquet carrying paratroopers of the EdA's 2nd Para Squadron. These made a combat jump over the airstrip adjacent to the abandoned outposts in Smara – only to encounter no resistance: the insurgents withdrew in the face of a superior enemy. Shortly after, the two forces linked up and the Spanish national flag was hoisted over the outpost again. Next, Task Force Grall was reinforced by another, smaller motorized column that arrived from Tindouf, in Algeria.

In the meantime, Task Force Vidal – comprising 1,300 troops and 220 vehicles – moved out of Fort Trinquet and attacked in the direction of el-Guelta. The latter was also the objective of the Spanish Task Force A: comprising 1,507 troops and 262 vehicles, this advanced out of el-Aaiún. Furthermore, Task Force B, including 1,522 troops and 269 vehicles, advanced from Villa Bens in an eastern direction, towards Edchera and Tafudart. Each of the Spanish columns was supported by M24 Chaffee tanks and a battery of 105mm artillery pieces.

Right from the start, the Spaniards encountered fierce resistance. Correspondingly, the French began sending their T-6s and other aircraft to provide support: by the end of the day, these had flown over 100 combat sorties. The EdA added about a dozen sorties from its bombers. Unsurprisingly, two of its CASA.2.111s were damaged by ground fire, of which one was subsequently declared irreparable and struck off. Several T-6Ds that were providing CAS for Task Force A in the Ausejet area were also damaged.

The same pattern was repeated for the next five days, although meanwhile most air strikes were flown by the French – and especially their B-26s. To the considerable surprise of AdA's aviators, the Sahrawis tended not to run away but to respond with a fierce barrage from their rifles and machine guns, often stoically standing and shooting back even when under devastating strafing attacks. Correspondingly, the number of damaged Invaders per sortie flown quickly outmatched the statistics from Algeria. Also damaged on 11 February was an MD.315, which received a hit in one of its engines during a strafing pass over Aoucet, forcing the pilot to make a crash landing. Overall, the EdA flew a total of 45 attack sorties during this period, hitting targets in the Tafudart, Wadi Tigsert, and Chammar

areas. The precision of its strikes – and their coordination with ground troops – improved significantly when it embarked one of its FAC-teams on board the single Do.27. How fierce some of air strikes were became obvious on 16 February 1958, when a French T-6G collided with a camel during a low level strafing pass. Nevertheless, the pilot nursed his badly damaged aircraft back to Fort Trinquet.⁴³

Eventually, most of the commanders involved were full of praise for both French and Spanish aviators. Not only that the crews of attack aircraft did their best to support the ground troops, but



Troops of one of the French task forces with their Dodge WC-series trucks, underway in the Spanish Sahara during Operation *Ecouvillon*, in February 1958. (Photo by Michel-Ivan Louit)



A gun-pod armed T-6G of the AdA rolling for take-off from Fort Trinquet in February 1958. (Jean Louis Dunoyer Collection)

transports saw lots of action while dropping supplies by parachute – and sometimes landing on improvised strips in order to pick up the wounded. In order to speed up such operations, two N.2501s were meanwhile also deployed at Gando AB, from where they ferried supplies to el-Aaiún.

While pitched battles raged elsewhere, Task Force Grall continued mopping up the area between Smara and Raudat el-Hadj. When it discovered that a cornered insurgent group had sought refuge at Sidi Ahmed Laarosi, 209 paras of the 7th Colonial Paratrooper Regiment jumped over this place from six N.2501s on 11 February 1958. Supported by T-6Gs, they overpowered the enemy in a bitter battle.

In the meantime, Task Force A managed to overcome multiple insurgent ambushes and continued its advance until reaching Itgui and Tafudart, from where it turned in the direction of Gaada. To accelerate the march of Task Force Grall in the same direction, troops of that unit cleared an improvised airstrip near Haussa, which enabled N.2501s and C-47s to land and bring in much needed fuel and water. Through the same time, Task Force Vidal combed the northern bank of the Seguiet el-Hamra River, finding numerous small camps and bases, and capturing enough ammunition to fill 20 trucks, before it linked up with the Task Force A on 13 February. The Spanish Task Force B also managed to break out and push along a desert track passing between Tafudart and Tufidiret before reaching Magder Tuana on 14 February, where it linked-up with Task Force Grall.

The AdA and the EdA meanwhile continued flying intensive air strikes. An increasing number of these targeted Ued Dra'a – the main insurgent supply base. Once again, many aircraft received damage from ground fire, foremost while descending very low in order to hit caves in mountainous areas with their rockets.

Finally, the three French task forces all converged upon Guelta Zemour. Task Force Vidal, which was in front, encountered fierce resistance in the Randa el-Hach, which was suppressed only thanks to constant and efficient CAS. In similar fashion, the two Spanish task forces converged on Wadi Tigsert. With this, almost the entire northern Spanish Sahara was cleared of the LA, by 17 February 1958.

The End in the South

While the French and Spaniards ran their operations in the northern Spanish Sahara, the garrison of Ifni was carrying out only limited attacks, sometimes supported by CASA.2.111s. A serious attempt to breach the siege was made only when a task force of two battalions launched an attack in a northern direction, along the coastal road to Tabelcut – code-named Operation *Pegaso*. Although supported

by a cruiser and a destroyer of the *Armada*, the involved troops were forced to stop in the face of fierce resistance. Ultimately, the governor of Ifni was advised to stay put and wait for reinforcements once these would become available upon the conclusion of the Operations *Ecouvillon-Teide* in the south.

Indeed, during the following day, commanders of the task forces in the Spanish Sahara did their best to accelerate their advance and cause as much damage

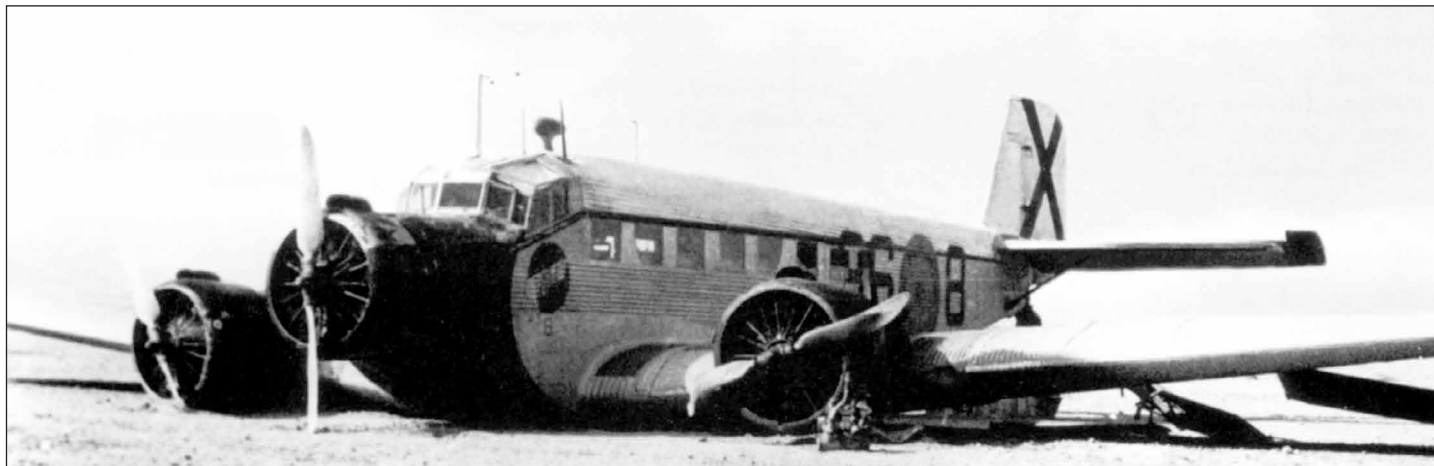
to the Liberation Army as possible. On 18 February, Operation Morabito saw a jump of 133 paratroopers from 14 CASA.352s over Haguia. Supported by four T-6Ds, the troops landed unopposed. As soon as they were back to base, the same transports were refuelled and then loaded with a company of paratroopers for another jump over Ercunt, 20 kilometres north-east of Sidi Ifni, this time supported by two CASA.2.111s. After landing safely, the paras held a small perimeter firmly in their hands until the arrival of the Spanish Task Force 36, thus significantly expanding the defence perimeter of the besieged enclave.

The final offensive in the Spanish Sahara was on 20 February 1958, with the three French task forces attacking from Fort Goureau, Zoug and Satel Ogmane. The Spaniards assigned 850 of their troops and 112 vehicles from el-Aaiún to Task Force Vidal, which smashed the main insurgent base in A'ausert, on the next day. Immediately afterwards, one CASA.352 brought General Vasquez to this place, for an inspection of the recovered position. The next aim of the French was Leglat Yenna, on the Tiris Plateau some 20 kilometres west of Aussert: this was encircled by the nightfall. However, by dawn of 22 February, intelligence concluded that a part of the enemy force had managed to slip away in direction of the Adrar Soutouf Plateau. The Spanish Task Force C thus promptly attacked the eastern side of the desert redoubt, killing about 40 insurgents, while the French occupied the western part. The T-6Gs and MD.315s vigorously patrolled the area, attacking any insurgent columns; they were supported by Spanish T-6Ds that flew at least 12 sorties a day – including some in support of Task Force Vidal, and frequently attacking targets only 150 metres in front of friendly troops.

With the LA doing its best to evade confrontation, major clashes on the ground became a rarity. Nevertheless, there were numerous skirmishes, and at least one firefight at Tenuuaca Y Agracha. Furthermore, four Spanish Texans proved highly successful when they discovered a group of insurgents that was setting up an ambush for Task Forces Vidal and C, outside Bir N'zaran, and neutralized most of the enemy.

After recovering the outpost at Guelta, Task Force Vidal also continued in the direction of Bir N'zaran, and reached the coast by 23 February. The French Navy's warships then arrived in Villa Cisneros to evacuate its troops two days later, thus concluding the French intervention in the Spanish Sahara: the other task forces meanwhile withdrew towards Forts Gouraud and Trinquet.

The Spaniards continued their mopping-up operations until mid-March 1958, by when their T-6Ds and Buchóns found ever



This CASA.352 was one of the examples that received damage from ground fire during the fighting for Ifni, and was forced to make an emergency landing at the local airport (for details on colours and markings of this aircraft, see the colour section). (Albert Grandolini Collection)



Spanish paras seen on board a CASA.352s during Operation *Morabito*, on 18 February 1958. (Albert Grandolini Collection)

fewer insurgent bases and columns to attack. Correspondingly, they redirected their efforts into finally lifting the siege of the Ifni enclave. Between 20 and 25 February, the C 2111s – six of which were meanwhile forward deployed at the local airport – flew a series of preparatory air strikes on Tiliun, Mesti y Tingra, Hameiduch, and Takharatand Tamucha. On 27 February, two bombers underway at low altitude took an insurgent column by surprise as this was retreating towards the Moroccan border, and saturated it with 240 81mm mortar bombs, killing dozens. This was the literal drop that over-spilled the barrel: the battered and broken Liberation Army proved unable to withstand the advances of superior ground forces supported by strong air power, and was thus left without a choice but to order a general evacuation from Ifni. The last 3,000 organized combatants from the Reguibat tribe negotiated their surrender to the French authorities, on 11 April 1958, at Forts Trinquet and Gouraud. Nevertheless, the French continued their operations against some of the scattered insurgents from bases in Mauritania well into 1959, by when they were joined by the newly-established Moroccan armed forces.

Overall, air power played the key role in what became known as the Ifni War. The AdA aircraft alone flew an average of 100 attack sorties a day, while the Spaniards managed another 30. Thus, the EdA flew a total of 2,179 sorties between 23 November 1957 and 7 March 1958, including 367 attack, 328 reconnaissance, 34 for dropping paratroopers, 1,270 for transport purposes, 71 liaison and observation, 40 medical evacuation, and 33 SAR missions.

The Ifni War was foremost characterised by dirty games played by Mohammed V – now King of Morocco – with the Liberation Army. On one side, he flatly refused repeated French and Spanish



Combat jump of Spanish paratroopers from one of 14 CASA.352s over Haguia on 18 February 1958. (Albert Grandolini Collection)

demands to move against insurgents that controlled a large part of his country. However, he also refused to openly support the LA. Instead, he negotiated for Madrid to relinquish the Tārfaya Strip (also 'Cape Juby') to him – only to experience quite a surprise: when, in May 1958, a Moroccan Army column moved in to occupy the relinquished area, it found itself opposed by several group of warriors from the Reguibat tribe that used to serve with the Liberation Army, and had fought the Spaniards at earlier times. These ambushed the Moroccans and pinned them down to a degree where Rabat was forced to deploy ARC's C-47s in their first 'combat operation' ever – in order to deploy three companies

of paratroopers. Unsurprisingly, during the following weeks, Mohammed V entered close military cooperation with the French – which helped him deploy elements of his military that consisted of former insurgents against insurgents. Effectively, this meant that the regular Moroccan military did nothing to help the LA's struggle for those parts of Morocco that were still under colonial control, and even less so against the Spaniards in the Spanish Sahara: on the contrary, as subsequent developments were to show, Mohammed V not only allowed the French and Spanish forces to destroy the

insurgency, but then cynically absorbed a few of surviving insurgent groups. On the top of this, and in an act that added plenty of salt to the resulting injury, officials in Rabat subsequently went to great lengths to declare the LA's insurgency as 'an armed struggle under the Moroccan flag' – and thus a, 'proof of loyalty of southern provinces' to Mohammed V. This not only deepened the traditional rift between the Moroccans and the Sahrawis: indeed, it was an act the latter would never forget.

Chapter 4

Local Military Build-Up

As obvious from events described in the first three chapters, western Africa between Morocco and Algeria in the north, and the Spanish Sahara and Mauritania in the south went through a particularly violent period in the late 19th, and the first half of the 20th Century. Unsurprisingly, considering the thousands of victims and massive material damage, lots of emotions were involved, and the situation resulted in an entire myriad of often controversial claims and counter-claims about rights, privileges and possessions, but also the establishment, build-up and involvement of various local and domestic powers – and their militaries – that came into being in the late 1950s and through the 1960s and 1970s. Indeed, even many professional military reports prepared by foreigners had often been coloured correspondingly. The following chapter provides a detailed review of the build-up of local military aviation forces during this period.

Royal Moroccan Armed Forces

The origins of the modern-day *Forces Armées Royales* (Royal Armed Forces, FAR) can be traced back to the protectorates period of 1912-1956, when large numbers of Moroccans were recruited to serve in the *Spahi* and *Tirailleur* regiments of the French Army in Africa, and by diverse units of the Spanish Army of Africa staffed by native troops. The Army of Africa played the crucial role during the Spanish Civil War, and thus thousands of Moroccans served on the Nationalist side during that conflict, some reaching high ranks.

For example, Mohammed Meziane Zahraoui rose in rank to that of Lieutenant-General in the Spanish Army, and later served as the Governor of the Galicia Province in metropolitan Spain – before returning to Morocco, where he was appointed a minister after independence, and given the honorary title of the Marshal of the Moroccan Armed Forces. Hundreds of thousands of Moroccans served with the French Army during the First and Second World Wars, often earning themselves a reputation as tough fighters: they and others confirmed this while fighting as insurgents during the Rif and Ifni Wars too. After 1945, they also formed a part of the French Far East Expeditionary Corps that fought in Indochina from 1946 until 1954.

Unsurprisingly, when the Moroccan armed forces were officially formed, on 14 May 1956, their core consisted of about 15,000 seasoned veterans of the French and Spanish colonial armies. The emerging military was 80% Berber in composition, but most of the officers were urban Arabs. Their equipment was primarily of US and French origin: Paris turned over arms and ammunition stocks worth about US\$ 40 million to the new government, and Spain also contributed a significant amount: however, it was in France where between 200 and 300 Moroccan officers were trained every year for most of the 1960s and 1970s.⁴⁴

In July 1956, the total strength of the FAR was raised to 30,000 by the incorporation of about 5,000 insurgents from the LA, about 10,000 men from the Spanish-controlled Moroccan forces, and



Five Max Holste MH.1521 Broussard light transports were amongst the first aircraft operated by the FAR, starting from December 1957. (Abdesalam Bouziane Collection)

some from the Spanish Army of Africa. Another contingent of former members of the Liberation Army was accepted in 1958. Furthermore, in 1960, the Royal Moroccan Navy was established as the naval section of the army, while para-military branches were created in the form of the Royal Gendarmerie, the Mobile Maghzan Auxiliary Forces, and the Mobile Intervention Companies of the Directorate General of National Security.

Moroccan Air Force

Following the quick demise of the Sharifian Squadron, a new attempt to set up a Moroccan air force was launched only in late 1954, when the Overseas Air Group (*Groupe Aérien d'Outre Mer*, GAOM) 962 – a combined French-Moroccan unit – was established with a complement of seven Morane-Saulnier MS.733 Alcyon armed trainers. The purpose of GAOM 962 was to train the first Moroccan pilots and ground personnel under the tutelage of French instructors. Although much of the training actually took place in France, upon the insistence of the Moroccan authorities, and although still belonging to the AdA, all seven aircraft wore Moroccan national insignia.

Officially, the future air force then came into being as a small service attached to the army, and officially designated the Sharifian Royal Aviation (*Aviation Royale Chérifienne*, ARC), on 14 May 1956. Designed with the purpose of supporting ground forces in maintaining internal security, the ARC remained completely dependent on substantial help from France and Spain. Originally, it had only 12 native personnel: nine pilots, one technician, one communications officer and one logistic officer. All the pilots in question – amongst them were Abdallah Amar, Ahmed Bel Hou, Abdullah Bamarouf, Brahim Ben-Hamed (Aguizoul), Abdellatif Boutaleb, Abdesalam Bouziane, Mohammed Kabbaj, and Qaddur Terhzaz – were still abroad, undergoing training as transport pilots at the Academy of the French Air Force (*Armée de l'Air*, AdA) in Salon de Provence. Additional Moroccan personnel were also trained at home and abroad: about a dozen ground technicians underwent training at the AdA's school for non-commissioned officers in Marrakesh, while up to 20 students were trained in France. Subsequently, most officers from the latter group continued their education in France, where they graduated as fighter pilots.⁴⁵

Upon their return to Morocco, in 1958, these officers found the ARC under the command of an advisor assigned by the AdA, Major Aumont. Because GAOM 962 was disbanded in December 1957, a new unit – the *1e Escadron Aérien* – was established at Rabat International Airport (IAP), and equipped with a total of 16 MS.733s, 5 Max Holste MH.1521 Broussard light transports, one Aerospatiale SE.3130 Alouette II helicopter, and one Bell H-13.

Practically all the major air bases this service used – including Meknes, Rabat, Marrakesh, Kenitra, Ben Guérir, Boulhault, Nouasser and Sidi Slimane – were inherited from the French. The French maintained most of their training facilities – including the primary flight school at Marrakech and the tactical fighter weapons school in Meknes – in this country until 1961. Morocco also housed operational units, foremost the EC.8, equipped with Mistrals and Mystère IVAs, which ran regular deployments for combat operations in Algeria. Furthermore, for most of the 1950s and until 1963, Morocco housed several bases of the United States Air Force (USAF). The most important amongst these was the 7,000-acre Nouasseur Air Depot (Base Aérienne 200 in Franco-Moroccan military parlance), which housed the Headquarters (HQ) of the USAF's Southern Air Material Area, Europe, established under a Franco-US agreement of 1951.⁴⁶

According to the same treaty, the USAF Strategic Air Command (SAC) was granted permission to maintain four bases for Boeing B-47 Stratojet bombers in Morocco: when operating from local air bases, these were capable of reaching targets in the southern USSR without in-flight refuelling. Most important of SAC's facilities in the Morocco was Nouasseur: this was the home-base for North American F-86D Sabre Dog interceptors of the 324th Fighter Interceptor Squadron, and the HQ of the 5th Air Division USAF. Other important US-operated facilities were Sidi Slimane (Base Aérienne 201; which served as a home-base for the 324th Fighter Interceptor Squadron once this was re-equipped with F-86Ls), and Ben Guérir (Base Aérienne 202). These were frequently used for forward deployments of additional heavy bombers operated by SAC on rotation from the USA. Boulhault (Base Aérienne 204) was also available for this purpose, but was not permanently occupied.

In the course of their operations in Morocco, the USAF's B-47s suffered at least one major accident. On 31 January 1958, a bomber carrying an Mk.6 nuclear bomb crashed on take-off from Sidi Slimane. While the fire-fighters struggled to hose down the fire that consumed the wreckage, all the other personnel and their families were evacuated in great haste due to fears of a possible nuclear conflagration.

Furthermore, the US Navy used to maintain a facility in Morocco: it shared the airfield at Port Lyautey (Kenitra) with the French naval aviation (Aéronavale). This was a home-base for squadrons equipped with Lockheed P2V7 Neptune anti-submarine warfare aircraft, often operated alongside Neptunes, Lancasters, and Privateers of the Aeronavale. A discrete electronic-intelligence (ELINT) gathering detachment equipped with Martin P4M-1Q Mercators of the VQ-2 Squadron were operated from there for several years before these were replaced by Douglas EA-3D Skywarriors. Upon Moroccan independence, the USA established a military mission to Rabat – the Moroccan United States Liaison Office (MUSLO) – and began providing military aid that by 1970 reached a total of US\$ 36.5 million.⁴⁷ Nevertheless, the French remained primary advisors for the Moroccan air force. For most of the 1960s, they maintained a military assistance mission of 241 officers and other ranks. Amongst others, these helped train no fewer than 442 local personnel – including 88 pilots – by December 1960. In comparison, only 22 Moroccan pilots were meanwhile trained in Spain.

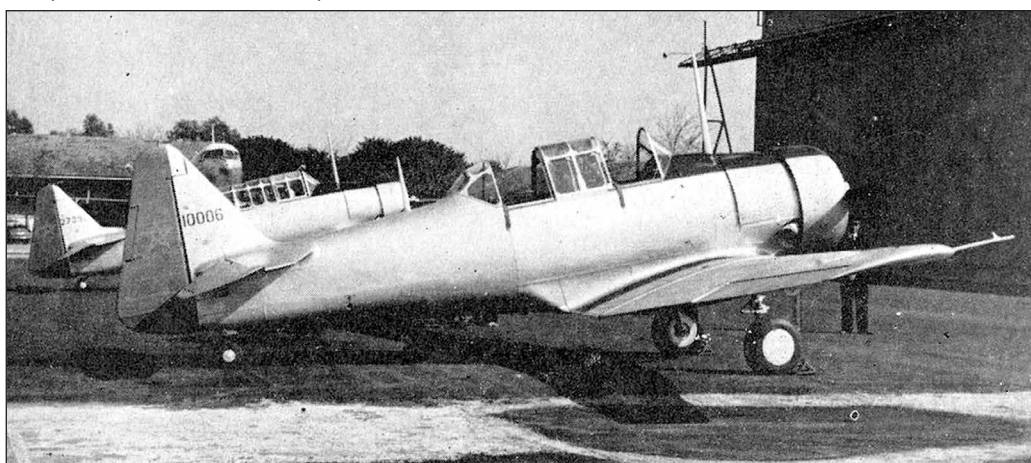
First Modernization

King Mohammed died and was succeeded by his son King Hassan II on 3 March 1961. While the country was subsequently re-organized as a constitutional monarchy with a bicameral legislature and a Prime Minister, the new king dominated the government and frequently assumed the Premiership. Furthermore, he positioned himself as the Chief of the General Staff and Supreme Commander of the FAR, and personally appointed trusted officers to key positions. The King's closest aides were always two generals: one acted as Minister of National Defence and coordinated the armed forces, Gendarmerie, Royal Police Force, and the Auxiliary Force; another as the Chief of Staff of the Army and the King's Adjutant in his role of the Chief of the General Staff.

Under its new supreme commander, the *1e Escadron Aérien*, ARC moved to Rabat-Sale AB (1e BAFRA), and was reinforced through the addition of a few Douglas DC-3 transports (civilian variant of the C-47) handed over by *Air Atlas*, a few North American T-6J Texan trainers, a number of Helwan Gomhouriya trainers donated by Egypt, and four Hawker Fury fighter-bombers donated by Iraq.



A rare sight of four ex-Iraqi Hawker Fury fighter-bombers as seen on their transfer flight to Morocco in 1961. Notably, instead of their three-digit Iraqi serials, each received a single-digit serial and the Moroccan national insignia applied on the fuselage. A fin flash was worn, while the serial was replied on undersides of the wing, too. (Albert Grandolini Collection)



Primarily sourced from France and Canada, over 90 North American T-6 and SNJ-4 Texans, and Canadian-built Harvard Mk.4s entered service with the ARC between 1960 and 1965. Nearly all were deployed as basic trainers. (Albert Grandolini Collection)



The first jets in service with the ARC were eight Fouga CM.170 Magister jet trainers, delivered to the newly-established Air Academy in Marrakesh, in 1960 and 1961. This aircraft sports the camouflage introduced in the mid-1970s. (Albert Grandolini Collection)

Major Aumont, the French pilot assigned to the command of the *1e Escadron Aérien*, is known to have test-flown one of the Furies but found it in such a poor condition that none was ever flown again – although they all received Moroccan national markings.

Nevertheless, by the time the Moroccans felt ready to obtain their first jet fighters, and corresponding requests were forwarded to Paris. The French reacted by delivering eight T-6G Texans and no fewer than 56 of the similar North American SNJ-4s: most of the aircraft turned out to be in a very bad condition and were written

off soon after delivery. Nevertheless, the French continued providing additional ‘struck-of-charges’ airframes, including two Lancaster bombers. These were used only as ground-instructional airframes. Therefore, the first modern aircraft the Moroccans ever received were eight Fouga CM.170 Magister jet trainers that entered service at the newly-established Air Academy in Marrakesh in 1960 and 1961. Staffed entirely by French instructors until at least 1965, the same facility was also equipped with the addition of 15 Canada-built Harvard Mk. 4s in 1962, and 25 North American T-28S Fennec light strikers in 1965.⁴⁸

A Flirt with the Soviets

In spite of apparent solidarity between the people and the Moroccan king, tensions between monarchists and various political parties marked the early years of the nascent nation. Eventually, the spread of Arab nationalism was accompanied with defiance towards France at the time of tense negotiations about the future of Algeria: combined with the wish to hasten the US and French evacuation of bases in Morocco, these led to establishment of ties with Moscow. In 1961, Morocco accepted a Soviet offer of military aid and assistance. Abdesalam Bouziane, one of the first Moroccan pilots, recalled the following about the establishment of the first Moroccan jet fighter unit:

The French initially wanted to donate a squadron of obsolete and struck-of-charge de Havilland Vampires. Considering them “flying coffins,” our pilots refused. [The] Soviets then provided 12 MiG-17 and two MiG-15UTIs free of charge. A delegation of Moroccan officers visited the USSR in December 1961 to negotiate the deal and was warmly welcomed by

Soviet Marshal Malinovsky. The Soviets were eager to help us. They told us we could get whatever we wanted – for free: MiG-17, MiG-19 or even the brand-new MiG-21!

We opted for the MiG-17 because we had only a few experienced technicians, and a group of our pilots was already trained on the Dassault Mystère IVA, in France.⁴⁹

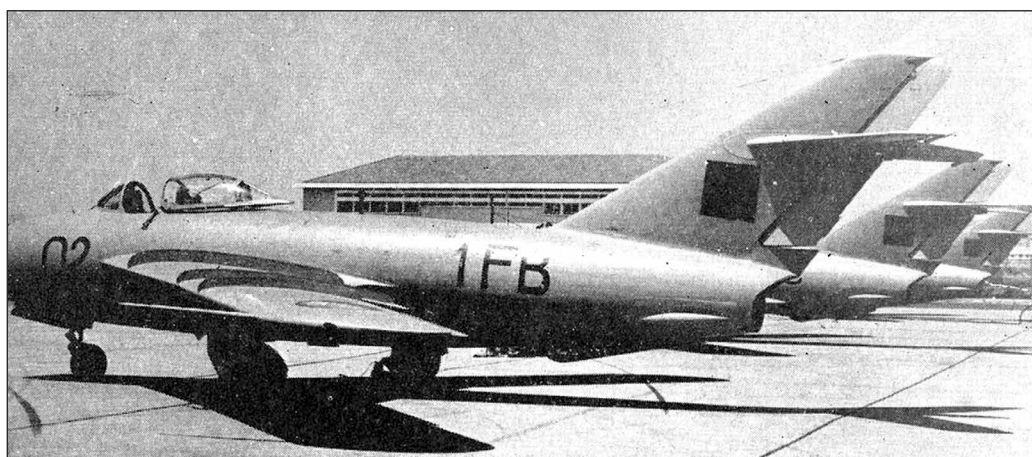
The aircraft arrived together with a 100 man advisory and training mission, and enough spares for one year, aboard the Soviet



France provided 25 North American T-28S Fennec light strikers to Morocco in 1965, once they became surplus to requirements following the conclusion of the war in Algeria, and the type was replaced by Douglas AD4 Skyraiders. (Albert Grandolini Collection)



Morocco originally received 12 MiG-17s directly from the former USSR. As far as is known all aircraft were painted mid-grey overall, and wore a set of serials on the front fuselage, and codes on the rear. (Albert Grandolini Collection)



An additional batch of four MiG-17s may have been delivered to Morocco in 1962, before relations with Moscow quickly soured. By early January the next year, the fleet was already reported as 'grounded'. (Albert Grandolini Collection)

freighter *Karagonda*, on 10 February 1961. Once in Morocco, the Soviets helped establish the *2e Escadron Aérien*, ARC – a fighter-jet unit initially based at Ben Slimane AB, outside Casablanca, before it moved to Meknes AB, once this was vacated by the French. A paradoxical situation developed under these circumstances, and for nearly two years following– the French closed their last installations in late 1962, with the Americans following a year later –whereby the Soviets provided arms and assistance to an Arab monarch who, at the same time, granted permission for the basing of USAF units flying nuclear-armed strategic bombers in his country.⁵⁰

Despite – or precisely because of their withdrawal – Washington and Paris remained keen to retain Morocco within their sphere of influence, and thus continued providing surplus aircraft free of charge. Thanks to the addition of 6 Fairchild C-119G Flying Boxcar and 10 DC-3/C-47 transports, and one Airspeed AS.57 Ambassador (donated by Jordan and used for VIP-transportation), the ARC was meanwhile expanded and reorganized into six squadrons deployed at three air bases, including the *1e Base Aérienne* in Sale, responsible for training of personnel for helicopters and transports, and the *2e Base Aérienne* at Meknes, responsible for training on combat aircraft; while Marrakesh became the home of the Flight School. As of 1962, the force was equipped with following aircraft and helicopters: 6 SE.3130 Alouette II, 1 AS.57 Ambassador, 1 Beech D-18S, 2 Beech E-50 Twin Bonanzas, 4 Bell 47D/Gs, 10 Douglas C-47 Skytrains, 6 Fairchild C-119C Flying Boxcars, 8 Fouga CM.170 Magisters, 1 de Havilland 114 Heron, 6 Max-Holste MH.1521 Broussards, 12 MiG-17Fs, 2 MiG-15UTIs, 6 Morane-Saulnier MS.505 Criquets, 6 MS.733 Alcyon, 1 MS.760 Paris, 12 North American T-6/SNJ-4 Texans, and 1 NC.702 Martinet.⁵¹

Obviously, good relations between King Hassan II and Moscow could not last for very long. Despite reports about deliveries of four additional MiG-17s, and either two or four Ilyushin Il-28 bombers in late 1962 or early 1963, the actual condition of Moroccan MiGs quickly deteriorated, as recalled by Bouziane: 'All the MiG-17s had been grounded by January 1963, because of a lack of spares caused by the cessation of Soviet aid.'⁵²

An Islamic Air Force

Established in a similar fashion and with the same purpose as the FAR – namely, from Mauritanian-manned French Army units, with the help of equipment left behind by the French in October 1960, and with the maintenance of internal security as its primary purpose – the armed forces of Mauritania were originally a rather small service, barely some 2,550 strong, and heavily dependent on French assistance. Indeed, the country had hardly been released into independence on 28 November 1960 when Nouakchott signed a mutual defence and military assistance agreement with Paris, which



A reconstruction of a Breguet 14A operated by the Sharifian Squadron – and thus, at least on paper, the first native Moroccan military flying unit. As far as is known, the aircraft arrived in French Morocco still painted in green overall, except for the front part, which was left in 'bare metal' overall (alternative reports cite the application of a brown camouflage colour, but none of the currently available photographs confirms this). The Sharifian Star was applied in yellow and red on the centre of the fuselage, while large serials were worn on the fin (original type designations and registration numbers seem to have been largely worn out). (Artwork by Tom Cooper)



While some of the C.2111 Pedros operated by the EdA during the Ifni War were camouflaged in grey, green, and brown on top surfaces and sides, most were left in anti-corrosion grey colour on top surfaces and sides, and light blue on undersides. Roundels were applied in six positions, while the rudder was usually entirely covered by the national insignia, consisting of the black and white Saint Andrew's Cross (*Aspa de San Andrés*) – introduced by the Franco-controlled nationalist air force during the Civil War. The serial – always applied in black on either side of the roundel on the fuselage – consisted of unit designation, and the aircraft's individual number in the squadron. (Artwork by Tom Cooper)



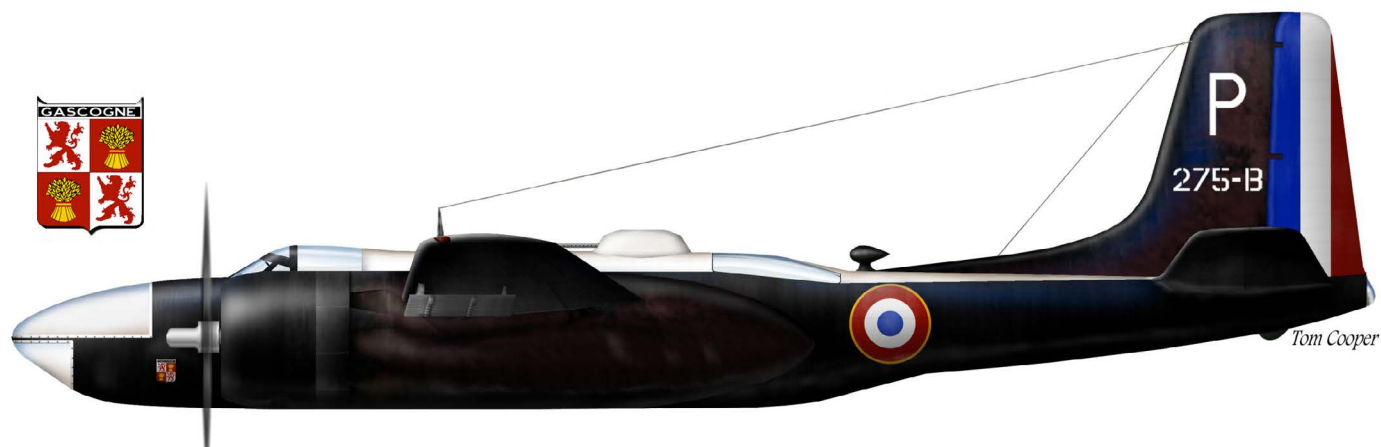
This is a reconstruction of the CASA C.352 that made a belly landing near Ifni in early 1958. Painted in anti-corrosion grey overall, the aircraft had the top of the fuselage in white, and a black cheat-line down the fuselage. In addition to roundels in the usual six positions, it wore its big serial (consisting of the wing's designation and the aircraft's individual number) on the rear fuselage, and its registration near the top of the fin. Inset is shown the crest of the 36th Wing, EdA. (Artwork by Tom Cooper)



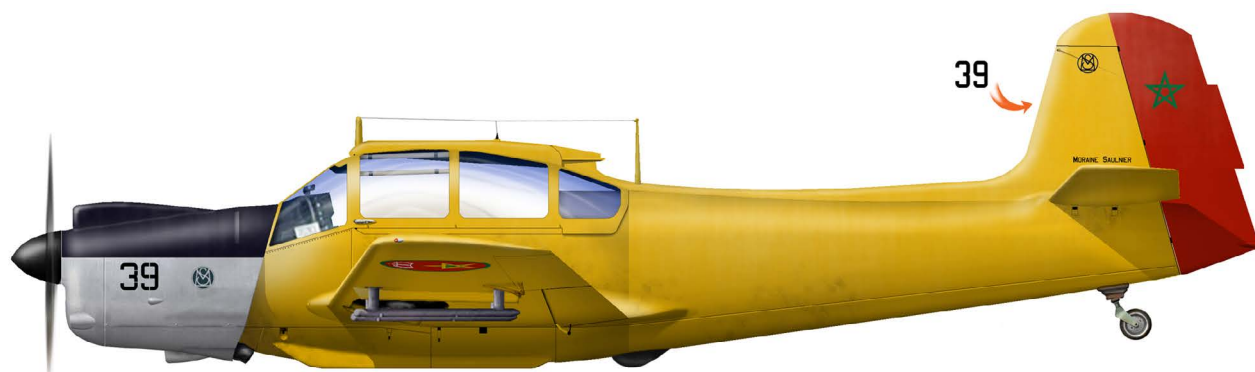
A reconstruction of one of the Buchons that crashed on take-off from el-Aaiún in early 1958. As usual for this period, the aircraft was painted in anti-corrosion grey overall, with undersurfaces in light blue. The wing crest (a diving pelican in white, with black number 7 as background) was applied on the engine cowling. Notable is the armament consisting of HS.404 20mm cannon and underwing launch rails for 80mm unguided rockets (usually, two double rails were installed under each wing). Although the CASA-manufactured Buchons saw only relatively little action during the Ifni War, this was the last armed conflict for the legendary Messerschmitt Bf.109. (Artwork by Tom Cooper)



A reconstruction of the T-6G from the EALA.3/10 of the AdA, as deployed in southern Morocco in 1959 in mopup operations against the last elements of the LA defeated the previous year within the Spanish Sahara during the Operations *Ecouvillon-Teide*. The aircraft was painted in yellow overall, with the spinner, the usual anti-glare panel, and a thick 'cheat' line in black. Insignia of the EALA.3/10 (a stylized battering ram) was applied in black only, underneath the cockpit. Armament consisted of underwing pods for two 7.62mm machine guns each, and four underwing launch rails for unguided rockets. (Artwork by Tom Cooper)



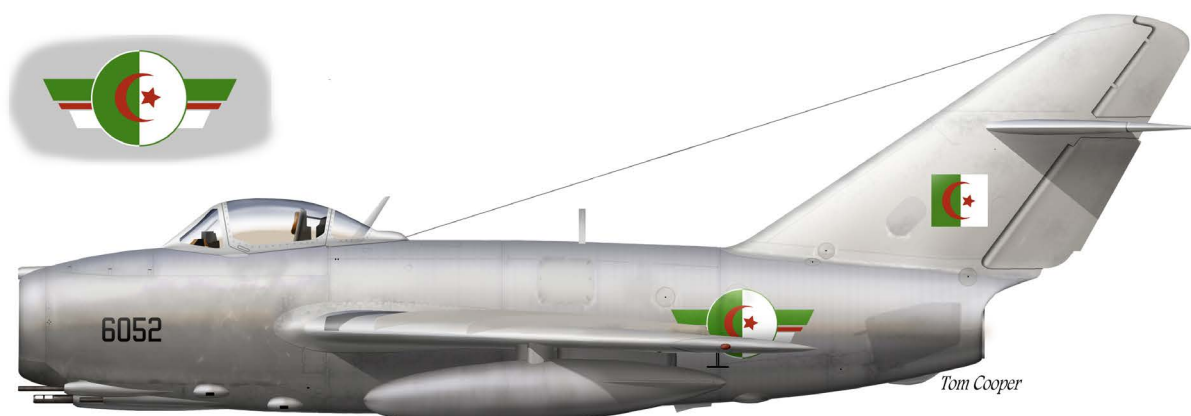
Up to a dozen B-26 Invaders drawn from the GB.1/91 and GB.2/91 saw action over the Spanish Sahara during Operations *Ecouvillon-Teide*, in February 1958. As far as is known, all were painted matt black overall, with top fuselage in white. Their noses were regularly changed, depending on mission, while the same aircraft were frequently cited as B-26Bs or B-26Cs in the documentation. Illustrated here is the B-26 with original FY-serial 43-22445, registered as 275-B, and operated by the GB.1/91 Gascogne. Notable is the addition of no less than eight underwing launch rails for unguided rockets. (Artwork by Tom Cooper)



Until recently, only relatively little was known about the appearance of Moroccan MS.733 Acylons. According to the information obtained in the meantime, it appears that much of the fleet was painted as shown here: with the spinner and the top of the engine cowling in black, and the lower portion of the engine cowling left in bare metal; the remaining fuselage, fin and wing in yellow overall; and the rudder in red, to serve as the background for the national marking – consisting of the green Sharifian Star. Two digit serials in black (known examples were in the range 33-45) were applied on the engine cowling only. Later on, some aircraft were stripped to bare metal overall (although retaining the black 'anti-glare panel' on the front fuselage), and serials were re-applied in the middle of the fin. Notable was the application of the company log of Moraine-Saulnier, in black on the top of the fin, and its 'negative' – in blue – on the engine cowling. (Artwork by Tom Cooper)



While the grey-overall livery of Moroccan MiG-17s (original variant, without an afterburner, and thus without the suffix 'F') always remained the same during their service, early on they used to wear a form of unit insignia on the fin, the exact details and background of which remain unknown. National insignia was applied on four positions on top and bottom wing surfaces and, later on, in the form of a red square on the fin. Their drop tanks (rarely carried in peace-time) were always left in a natural metal finish, which actually consisted of the colour of material from which they were made, and a double layer of clear lacquer mixed with 5% aluminium powder. Serials were in the range 01-12, and each aircraft received a set of codes, ranging from 1FA to 1FM. (Artwork by Tom Cooper)



The first few MiG-15bis' to serve with the Algerian air force were all donated by Egypt. Because that country acquired no MiG-15bis' after the Suez War of 1956, they must have been manufactured in the former Czechoslovakia in 1955. Sadly, their construction numbers remain unknown, while their known Algerian serials were in the range 6052-6059 (the sole known MiG-15UTI from the period used to wear the serial number 6002). All were left in bare metal overall finish. i.e. the colour of their metal skin, covered by two layers of clear lacquer mixed with 5% aluminium powder. In Algeria, this 'paint' became known as 'silver grey'. Notable are contemporary roundels, including 'wings' in green, red and white: while probably applied on top wing surfaces, it remains unknown if these were repeated on their undersides, too. (Artwork by Tom Cooper)



Moroccan F-5As were originally delivered in their standard livery, consisting of an anti-corrosion grey colour overall. They wore long anti-glare panels in dark green down the top of the entire forward fuselage, and fin flashes only. Whether any roundels were applied on top or wing surfaces remains unknown. Serials were based on their FY-numbers, and applied in 'Amarillo USAF' fonts on the fin only. This example is shown equipped with a LAU-10 launcher for practice rockets installed under the centreline: it remains unknown if the Moroccans ever received any AIM-9B Sidewinder air-to-air missiles for this type. (Artwork by Tom Cooper)



The very few photographs of Algerian MiG-17Fs that have become available over time are all of very poor quality. They seem to indicate that the aircraft were originally delivered in the 'silver-grey overall' colour, and wore two-digit serials on the forward fuselage and national markings on the rear fuselage, only (see inset). By the time nearly all were donated to Egypt, during the June 1967 Arab-Israeli War, they may have been re-painted in light grey overall: at least one example – serial 24 – received unit insignia in the form of a black and yellow cobra, details of which are shown in the inset. The same aircraft also received a three-digit alpha-numeric code down the centre fuselage (backgrounds of which remain unknown), and roundels in six positions, as shown here. (Artwork by Tom Cooper)



The first batch of 12 MiG-21F-13s delivered to Algeria were left in their original 'bare metal overall' livery, which – like in the case of earlier MiG-15s and MiG-17s – consisted of two layers of clear lacquer mixed with 5% aluminium powder over all surfaces. Only such dielectric panels as the intake cone and front part of the ventral fin were painted in green. Their original known serials (always applied in black) were in the range 69-91, but by the time they were donated to Egypt, in June 1967, a batch with much lower serials – including the one shown here – is also known to have been operational. Around the same time, at least a few Algerian MiG-21F-13s are known to have worn an additional set of alpha-numeric codes applied in similar-sized digits and letters down the rear centre of their fuselage. Details about this remain unclear, and only one is known: 257E. (Artwork by Tom Cooper)



In early 1975, a three-tone, standardised camouflage pattern was applied on all of EdA's T-6Ds. This consisted of yellow, dark earth and black-green on top surfaces and sides, and light grey on undersurfaces. Correspondingly, large national markings and rather prominent serials (always applied in black, in the 'Amarillo USAF' fonts) were significantly downsized, while the individual aircraft registration on the fin remained roughly the same size as before. Notable are the underwing armament, consisting of one double and five single-rails for 80mm unguided rockets, and the 7.62mm machine gun installed inside the wing. (Artwork by Tom Cooper)



While originally painted in anti-corrosion grey overall, since early 1975, top surfaces and sides of Spanish HA.200Ds were camouflaged in the same colours (yellow, dark earth and black-green), applied in the same pattern as that on the T-6Ds. Notable is that the colours on the rear fuselage tended to wear rather rapidly. Their undersurfaces were painted in light blue. Like other EdA aircraft, they had a set of six roundels applied in the usual positions, and the Saint Andrew's Cross on the top of the rudder (the black stripes of which were often applied in rather 'irregular fashion'). Primary armament consisted of nose-mounted machine guns and diverse pods for unguided rockets. (Artwork by Tom Cooper)



Between 1971 and 1975, the EdA regularly rotated detachments of F-5As and RF-5As to Gando AB on the Canary Islands, and to el-Aaiún airfield in Western Sahara. The aircraft were mostly drawn from 211th and 212th Squadrons of the 21st Wing, home-based at Moron AB, in Spain. As usual for the time, they were left in their anti-corrosion grey overall livery, and wore the full set of national markings, prominent serials on the forward fuselage and fin, and unit insignia on the fin (this example was one of the RF-5As from the 212th Squadron). While rarely seeing active combat operations, they flew dozens of reconnaissance sorties along the border with Morocco and elsewhere: because of the vast expanses they had to cover, the carriage of up to five drop tanks was obligatory. (Artwork by Tom Cooper)



While not a combat aircraft, the Dornier Do.27 was perhaps the most important aircraft serving with the EdA in Western Sahara: it saw application for reconnaissance and liaison purposes, but also as a flying FAC platform. (Albert Grandolini Collection)



Spanish Do.27s deployed in the Spanish Sahara of the late 1960s and early 1970s were usually left in silver-grey overall, which faded considerably in the sun. Either just wingtips or the entire top wing surface was painted in white, to diminish the effects of the sun. (Albert Grandolini Collection)



This was the T-6D number 33 of the 463rd Squadron, as seen after the application of camouflage colours, in early 1975. Colours used were yellow, dark earth and black-green, applied in the same pattern on every aircraft. Notable are the wing-installed machine gun and underwing launch rails for unguided rockets. (Albert Grandolini Collection)



This fine study of a fully camouflaged T-6D reveals that there was a lot less use of the black-green colour on the right side of the aircraft. Notable is that the double rails for Hispano-Suiza 80mm unguided rockets were fixed, while the five outboard rails could be removed and replaced with bomb-shackles. (Albert Grandolini Collection)



A beautiful study of five HA.200D Saetas of the 462nd Squadron in their original 'anti-corrosion grey overall' livery, with red around the intakes and then extending into a 'bolt' (all outlined in white) down the fuselage. (Albert Grandolini Collection)



Nice view of one of the HA.200D Saetas of the 462nd Squadron to receive camouflage colours in early 1975, showing details of its colours and national markings on top wing surfaces. (Albert Grandolini Collection)



One of the little-known types to enter service with the nascent Moroccan air force was the SNCAC NC.702 Martinet – a type based on Siebel Si.204 light transport, 455 of which were manufactured on German order at the SNCAC factory at Bourges, during WWII. At least one out of only 110 NC.702s ever manufactured was taken on charge by the ARC. (Albert Grandolini Collection)



Most of up to 90 T-6s Morocco acquired over time were left in silver-grey or bare metal overall, and wore large anti-glare panels in black on the forward fuselage. They also had most of their engine cowlings and wing-tips painted in dayglo orange, and a fuselage stripe in the same colour. National insignia was usually applied over the entire ruder, and in the form of roundels on all four wing surfaces. (Albert Grandolini Collection)



A poor but rare colour photograph of a Moroccan MiG-17, while the type was still in operational service, in 1962. Notable is the appearance of the standard national insignia on the fin for this type, and a dual set of serials and alpha-numeric codes. (Albert Grandolini Collection)



One of the ex-Egyptian MiG-15bis operated by the Algerian air force early on, as seen shortly after the Sand War of 1963. All were left in their 'natural metal' livery, which actually consisted of two layers of clear lacquer mixed with 5% aluminium powder. Notable is the serial number 6054 applied in black on the forward fuselage, and roundels including 'wings' – apparently applied in green and white (instead in red and white) in this case. (Claudio Toselli Collection)



The only available colour image of an Algerian MiG-17F dated from before the June 1967 Arab-Israeli war. The aircraft shown is the example with the serial '24', decorated with the 'black cobra' insignia applied near the intake. (Tom Cooper Collection)



A rare colour image of one of first Max Holste MH.1521 Broussards of the nascent Mauritanian air force. The aircraft was painted in black overall but had the roof of the cabin and the rear fuselage, and the top wing surfaces painted in white. Either serials or construction numbers were applied in small white letters and digits, low on the outside of each fin. (Albert Grandolini Collection)



Map of Spanish Morocco with the area claimed by the Rif Republic outlined in red. This was the scene of the Rif War in period 1921-1927. (Map by Tom Cooper)



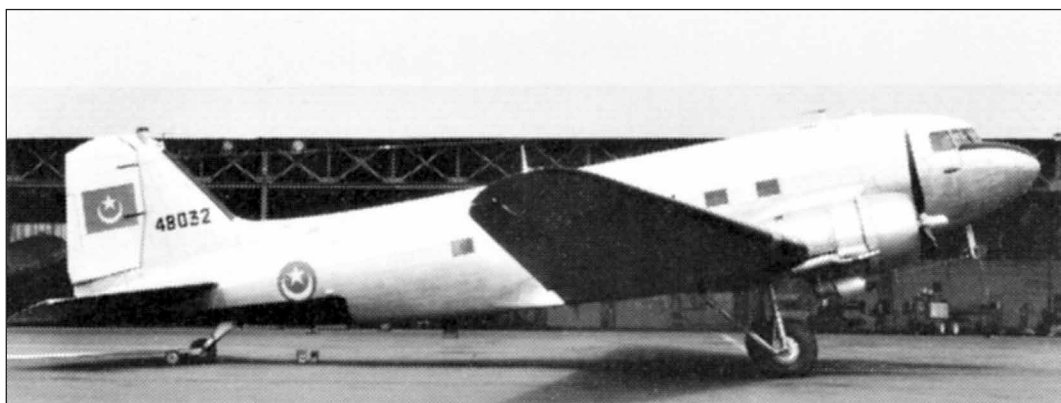
Map of Spanish Sahara and southern Morocco (including the Tarfaya Strip/Cabo Juby area, then still under Spanish control), with major manoeuvres of the Ifni War and Operations Ecouvillon-Teide, in late 1957 and early 1958. (Map by Tom Cooper)



In the early 1960s, King Hussein of Jordan donated this Airspeed AS.57 Ambassador to the King Hassan of Morocco and thus the ARC: the aircraft was used for VIP-transportation. (John Fricker Collection, via Simon Watson)



Max Holste MH.1521 Broussards were amongst the first aircraft operated by the Islamic Air Force of Mauritania, starting from 1966. (Albert Grandolini Collection)



The Mauritanian air force started with one C-47, but soon acquired five additional examples from France. The aircraft had the top of their cabins painted white, while the rest of the fuselage and wings were in aluminium overall. (Albert Grandolini Collection)

provided for help in maintaining internal security and military aid and training, in exchange for basing rights, and transit and overflight privileges. Correspondingly, when rebellious Sahrawis infiltrated northern Mauritania in March 1961, Paris reacted quickly with Operation *Cornue*: this included the deployment of a battalion of colonial paratroopers and a few T-6Gs from the EALA.5/73 to Atar. Although diminutive, this force proved perfectly sufficient: after three weeks of skirmishes, the insurgents negotiated their surrender. While all French troops were withdrawn from Mauritania by January 1966, Paris continued providing military aid at a rate of about US\$1.2 million per year.⁵³

An air element of the armed forces had come into being by 1960

as the Aviation Group of the Islamic Republic of Mauritania (*Groupe Aérien de la République Islamique de Mauritanie*), which was equipped with one C-47 and MH.1521 Broussards donated by the French. These were operated from the main airfield at Nouakchott by French personnel: some were seconded from the AdA, but many were contracted by the Ministry of Defence in Paris. Although the service was bolstered through the acquisition of five additional C-47s and three Broussards, and officially re-designated as the Islamic Air Force of Mauritania (*Force Aérienne Islamique de Mauritanie*, FAIM), in 1966, training of native pilots began only in 1970, when six Morane-Saulnier MS.881 Rallye trainers were purchased.

Algerian Military

Upon independence, Algeria found itself beset by military, ideological, and ethnic divisions. During the War of Independence, the 'internal' ALN of about 60,000 fought the French, while the 'external' ALN of between 30,000 and 40,000 better equipped and trained troops remained in Tunisia and Morocco, and saw next to no action, only entering Algeria upon independence. When the ALN was transformed into the regular military – as the National Popular Army (*Armée Nationale Populaire*, ANP) – it took over only about 10,000 of the 'internal' army personnel. About 50,000 former insurgents – foremost Berbers – were meanwhile tired of fighting-wars: never eager to become professional soldiers, they foremost wanted to return home.⁵⁴

The new nation was in possession of an extensive military infrastructure left behind by the French, but very little equipment: most of the latter was taken away. Because of this, there was a latent lack of nearly everything – including chairs and tables, not to mention military personnel experienced in administration and logistics. Algiers did place an order for AMX-13 light tanks from France, in 1962, and acquired at least four such vehicles from Morocco, but the crews for these were still undergoing training. Foremost, the ANP was critically short of vehicles of all sorts, and actually still oriented towards counter-insurgency operations, rather than conventional warfare.

Algerian Start-Up

The Algerian Air Force (*al-Quwwat al-Jawwiya al-Jaza'riya*, QJJ) had already come into being as a separate branch of the Algerian military during the Liberation War against the French colonial rule. A basic decision for the creation of an air force was made on 20 August 1956, during the Souman Congress of the FLN. Correspondingly, six Algerians were sent for training at the Flight School of the Syrian Arab Air Force (SyAAF) at Nayrab AB, in Aleppo, in 1957. Amongst them were Bouzghoub Mohammed Tahar, Ouyahia Smail, el-Doudabi Mustapha, Boudaoud Salah, Rahal Yahia, and Chellal Rabah, of whom Rahal is known to have made his first solo flight on a de Havilland Chipmunk trainer on 11 March 1958.⁵⁵

Three additional Algerian pilots, Lakhdari Mahiedine, Abdelkader Tahrat and Abderahmane Seri successfully graduated training at Nayrab AB, and then in Bilbeis AB, in Egypt, on 6 February 1959. Other Algerian students, as well as some of the already qualified pilots then continued undergoing training in Egypt, including Mohammed Ben Cherchali, Mustapha Douadji, Hocine Senouci, Nouredine Benkhoucha, and Mohammed Belmecheri.⁵⁶ Mahiedine, for example, is known to have undergone an additional course at the Egyptian air force academy at Bilbeis, where he was trained to become an instructor pilot. Subsequently, he underwent another course at the Flight College of the Iraq Air Force (IrAF), where he learned to fly de Havilland Chipmunks and Vampires.⁵⁷

In the meantime, the QJJ was officially established as the Army Air Arm, a branch of the FLN on 4 February 1959, when three Algerian pilots – including Said Ait-Messaoudène, the first Algerian to qualify on fighter jets – were issued their officer commissions. After qualifying to fly MiG-15UTIs during his training in the USSR, in 1959, Ait-Messaoudène proved not only an excellent pilot, but also became the only Algerian ever to qualify on the MiG-19 – a type Algeria never acquired, despite some corresponding claims in the West. Upon his return to Algeria, in 1962, Ait-Messaoudène was appointed the first commander of the QJJ, with the official title of “*Directeur de l’Air*” (Director of Air Operations). By the Algerian Independence Day, he had 53 airmen under his command, most of them still undergoing training, and including 18 fighter, 14 bomber, 21 transport and helicopter pilots, and 3 navigators. Furthermore, there were 82 technicians trained in various specialities, including 5 radar operators.⁵⁸

Egyptian and Soviet Aid

One of the major issues for the ANP early on was the fact that the French military was still present in numerous military bases around the country. Indeed, even after the last French troops left Algeria on 15 June 1964, the bilateral Treaty of Evian, signed with Paris in 1962, permitted France to maintain a naval base at Mers-el-Kebir, an atomic test site at Reggane, a space rocket launch site at Hammaguir, and a chemical plant at Beni Ounif, as well as various civilian aviation facilities.

Always overemphasised in the foreign media, Ben Bella’s rivals were actually few and generally limited to the Kablye – people of a Berber ethnic group indigenous to Kablyia region in the north-western Algeria. Relatively independent already since the times of the Ottoman rule in north Africa, they suffered from mistreatment and deportations during the French occupation, and created a significant diaspora abroad. Complaining about negligence, their leaders – foremost Hocine Ait Ahmed – criticised Ben Bella fiercely, to which the new strongman reacted with not only with hard repression, but an outright campaign of elimination.

Considering the prevalent chaos in Algeria of 1962, the initial



A poor, but authentic and rare photograph of one of the few Mi-4s operated by the QJJ around the time of Algerian independence. The helicopter seems to have worn only roundels on the rear fuselage. (Albert Grandolini Collection)



A pair of early Algerian MiG-15bis’ – serial numbers 6053 and 6054 – as seen in Algeria of late 1962. (Nour Bardai Collection)

growth of the QJJ proceeded at a rather slow pace. Certainly enough, it was by July 1962 that Egypt transferred the first of an eventual 12 Gomhouriya basic trainers and 5 MiG-15s, and provided a group of highly qualified pilots to serve as instructors. However, the first task of the Egyptian advisors was to provide basic flight training for a group of Algerians that were subsequently sent for a conversion course to MiG-15s in Bulgaria, in 1963 and 1964.⁵⁹

There are reports – although no evidence – that a few weeks later a few additional MiG-17s were donated to Algeria by Morocco. Accordingly, the aircraft should have been delivered to Colomb Bechar AB while this was still under the French control, and thus could not be flown. Whether it was one of the ex-Egyptian or one of the ex-Moroccan MiGs that was flown from Dar el-Beida airport over Algiers on 2 November 1962 – only a day after what was the first ever flight of an Algerian helicopter over the capital – remains unclear. The young pilot of the latter machine was Hocine Senoussi, who recalled:

We had only a squadron of Gomhouriya trainers, seven MiG-15s provided by the Egyptians, and five Mil Mi-4 helicopters. Ironically, these were delivered by the Soviets to Meknes in Morocco shortly before our liberation: they were intended to be used for flying clandestine supply missions across the border. I came with a group of our first helicopter pilots to Meknes, in late September 1962. Our Mi-4s were still in their delivery crates, but the Soviet technicians then assembled them. We flew them to Algeria in October, and I made an overflight of the military parade in Algiers on 1 November – for our first independence day.⁶⁰

As of this time, the embryonic force supported by the Egyptians was still under the command of Commandant Ait-Messaoudène, who in turn was directly responsible to Ben Bella’s powerful Minister of Defence: the former leader of the Morocco-based external wing of the FLN, Colonel Houari Boumedienne.



Taken at an unknown airfield in Libya, in late 1962, this photograph shows one of the first two MiG-15UTIs donated to Algeria by Egypt – serial number 6002. Notable is the national marking applied on the upper surface of the left wing only. (Karim S via Ahmed)

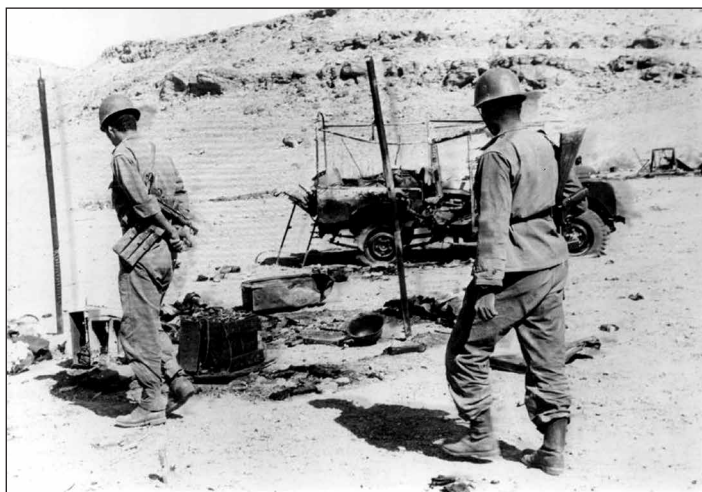


Taken on the same occasion, this photograph shows the same MiG-15UTI (6002), with one of three MiG-15bis' that accompanied it. During their delivery flight to Algeria, they were 'escorted' by two Egyptian Ilyushin Il-14 transports: these not only helped with navigation, but also transported the associated support equipment and weapons. (Karim S via Ahmed)

Chapter 5

Sand War

While Morocco and Tunisia provided sanctuary and bases for the FLN and 'external' elements of the ALN during Algerian Liberation War of 1956-1962, governments in Rabat and Tunis proved anything but as cooperative or sympathetic to the independent Algeria. First and foremost, there was no precise delineation of the border between Algeria and Morocco: theoretically, this was based on the border drawn by the French, but the same was often misidentified



Moroccan troops inspecting abandoned Algerian positions in the Hassi Beida area, early during the Sand War of September 1963. (Albert Grandolini Collection)

and varied from map to map. Because parts of south and west Algeria were nominally under Moroccan influence before French colonisation, Rabat began demanding Tindouf and Colomb-Bechar right from its independence, but Paris refused. Upon Algerian independence, Morocco complained that the French-drawn border favoured Algiers, and that during the Liberation War the FLN reached a secret agreement with King Mohammed V, according to which the future Algeria would grant its territory west of Tlemcen in the north to Tindouf in the south, to Morocco. The new Moroccan reign therefore visited Algiers in March 1963, to discuss the border issue, but the Algerian President Ahmed Ben Bella insisted to resolve the matter at a later date. General irredentism and the 'Greater Morocco' ideology of the dominating Istiqlal Party, and the discovery of important mineral resources, then began fuelling a major crisis: when Hassan II realized that the Algerians were not the least interested in meeting his demands, he ordered his military into action.⁶¹

Moroccan Invasion

As described above, by mid-1963, the FAR was a reasonably-well-developed and compact force, consisting of nearly 40,000 battle-hardened troops, supported by 40 T-54 main battle tanks, 12 SU-100 tank destroyers, KS-19 100 mm anti-aircraft guns, 16 AMX-13s, and two companies of gun-armed Panhard EBR armoured cars. Exactly how many of these were deployed for the coming operation remains unknown – even more so because it is known that most of



A rare photograph showing two, out of about 16, MS.733 Alcyon basic trainers and light strikers operated by the FAR as of 1963. Notable are the underwing launch rails for unguided rockets and hardpoints for bombs. (Nabil Borki Collection)



Abdellatif Boutaleb, one of the Moroccan T-6-pilots during the Sand War of 1963. (Nabil Borki Collection)



The fourth company of the sole Moroccan Armoured Reconnaissance Regiment operational in 1963 was equipped with M2 half-tracks. Eventually, all the elements of this regiment found their way to the battlefields of the Sand War. (Albert Grandolini Collection)

the involved troops were brought into the combat zone only after the fighting began.

On 25 September 1963, the Moroccans opened hostilities by assaulting and capturing two Algerian outposts: one near Tindouf and the other at Hassi Beida, near Figuig. Algiers reacted by announcing a general mobilisation and requesting help from Egypt, and Cairo reacted by deploying a battalion of paratroopers and several Mil

Mi-4 helicopters, with the help of transport aircraft of its air force, to Algeria. In the meantime, the ANP and the QJJ were searching for ways to re-deploy their troops and aircraft to the combat zone. Hocine Senoussi, one of the first helicopter pilots of the QJJ, recalled:

I was in Algiers when the Moroccans attacked and occupied two small villages north of Colomb Bechar. I immediately went to see Ait-Messaoudène who then commanded our tiny force. I told



Early during the Sand War, the only armour that the ANP could rush to the frontlines was of French origin – and including such vehicles as AMX-13 light tanks. (Albert Grandolini Collection)

him that troops were eager to fight the invaders. He answered that he first wants to see Colonel Boumedienne, and indicated that he was still negotiating with the French: the problem was that our closest air base to the combat zone was Colomb Bechar – which was still under the French jurisdiction. While waiting for an eventual agreement, we were thus re-deployed to Mecheria in the south. That airfield lacked everything in terms of technical support, but its runway was still in relatively good condition. So, we flew three of our helicopters from Cheragua, made a refuelling stop at Oran/La Senia, and then to Mecheria; seven MiGs came in over Maison Blanche (Dar el-Beida). We could not deploy the other helicopters due to the lack of trained crews. In fact, I was the only fully qualified helicopter pilot: all the others were still undergoing training. My friend Ben Cherchalli followed up in a Gomhouriya that was used for reconnaissance. .

In Mecheria, we were enthusiastically welcomed by the local people, who supported us with food and housing. The French initially relented, but we came to an ambiguous understanding: our aircraft would operate from Colomb Bechar but we had to promise not to fly them into offensive operations over Morocco. Boumedienne felt humiliated for having to negotiate the right for us to use an air base on our own territory.⁷⁶²

A solution for the transport of troop reinforcements was found in the use of DC-3, DC-4, DC-6, and Sud Aviation SE.210 Caravelle airliners of Air Algerie, even if this meant that the counterattack was rather slow to develop. Nevertheless, and although lacking heavy weapons and logistics, this operation was highly successful, and both points captured by the Moroccans were recovered on 8 October 1963.



A pre-war photograph of one of 16 AMX-13/FL-11 light tanks in service with the FAR as of 1962-1963. (Albert Grandolini Collection)



A double column of Panhard EBRs of the FAR during a pre-war parade. Two companies of the only Moroccan Armoured Reconnaissance Regiment existing at that time operated 17 of these vehicles, the third company was equipped with AMX-13s and the fourth with M3 half-tracks. (Albert Grandolini Collection)

Stalemate

After experiencing the Algerian counterattack, the Moroccans rushed their reinforcements to the combat zone, using transport aircraft of the ARC, as recalled by Bouziane, who flew C-47s:

We were then very concerned that the Algerians could use their MiGs against us. Fortunately, the nearest air base to the front lines was Colomb Bechar, which was still under French control. However, the risk still existed... It was then decided to launch an air bridge, with our C-119s bringing in supplies from Rabat and Casablanca to Marrakesh. From there, the goods were taken over by C-47s for the last leg to Tagounit, where there was a simple airstrip.

I led the first mission with seven C-47s. We flew in tight formation and crossed the summit of the Atlas Mountains at 16,000ft (4,876m). Suddenly, we heard a message on the radio, in French, "Here they are; we are going to make a pass!" Two jet fighters swooped down on us before breaking north. Two others made another pass before departing. I was stunned and did not understand, but we maintained radio silence. It was only after we returned to base that I learned that under the direct order

from the king, our fighter squadron – then under the command of Captain Abdullah Bamarouf – had made an all-out effort to provide top cover for us.⁶³

On 11 October, the Moroccans assaulted from Figuig in an eastern and southern direction and cut off the road between el-Bayadh in the north and Bechar in the south. After reconnoitring the area with their T-6Gs, and while deploying Panhard EBR75 armoured cars and MS.733 light strikers in support of their infantry, three days later the Moroccans launched a large-scale attack on Tindouf. The Algerians repelled this attack and, reinforced by the Egyptians, assaulted and captured the Moroccan garrison of Ich. Egyptian involvement in this operation became obvious when one of the Mi-4s made a forced landing near Ain Choater, occupied by Moroccan troops, on 17 October 1963 – as confirmed by Algerian sources and recalled by Bouziane

During an observation flight over the frontlines, the helicopter carrying

three generals and Colonel Hosni Mubarak was forced to land inside Moroccan territory. The "uninvited guests" from Egypt were all taken prisoner.

The future president of Egypt – by that time a seasoned instructor pilot and a highly-qualified staff officer – thus ended his first combat tour of duty as a prisoner of war in Morocco.⁶⁴

Cuban Intervention

Expecting further Moroccan attacks, the Algerians were relieved when on 22 October 1963 a contingent of Cuban troops commanded by Efigenio Ameijeiras disembarked at Oran. The Cubans arrived together with 22 Soviet-made T-34 tanks, and a battery of 122mm field guns. Although originally intended to serve as instructors, these were authorized to participate in combat operations in order to safeguard Algeria's territorial integrity. As soon as their arms and equipment were offloaded, they were transported to south-western Algeria by rail. Realizing the seriousness of the situation, and in an attempt to pre-empt the Cubans and Egyptians, King Hassan II ordered a major offensive. On 26 October, the FAR assaulted and captured Oum el-Achar and Merkala, 110-120 kilometres north-



A Moroccan soldier with Algerian troops captured in the Hassi Beida area, early during the Sand War. (via Tom Cooper)



A Moroccan AMX-105A self-propelled 105mm gun (early variant, with fixed superstructure) in action during the Sand War. (Albert Grandolini Collection):



Moroccan troops in position in the Tindouf area, where the flat, rocky desert made the issue of finding cover quite an important one. (Albert Grandolini Collection)



A platoon of Moroccan Army troops on a march towards the combat zone. Most of their equipment and fatigues were of US and French origin, which made their appearance generally similar to that of the US and French troops. (Albert Grandolini Collection)



Because it was still underdeveloped and lacking range, air power did not play a dominant role in the Sand War: its primary task was that of bringing reinforcements to the frontline, and keeping these supplied. Nevertheless, MiGs flown by both sides did make their appearance, too: this pre-war photograph shows two formations of Moroccan MiG-17s. (Albert Grandolini Collection)

west of Tindouf. The MS.733s supported the assault, destroying several Algerian fuel dumps and water reservoirs. In another attack, an entire brigade of the ANP was taken by surprise and encircled while travelling along the road from Agadir to Ras Targout. The isolated unit fought back for days entirely on its own, before the Moroccans were forced to withdraw.

Determined to hit back, the Algerians and Cubans began planning a major counteroffensive – Operation *Dignidad* – aimed at driving the Moroccans across the border and capturing Berguent. However, this enterprise was prevented by diplomatic intervention of the Ethiopian Emperor Heile Selassie and the Organization of African Unity (OAU). On 29 October, Algerian president Ben Bella and crown prince Hassan II of Morocco met in Bamako, in Mali, and signed a cease-fire that was to start on 2 November 1963.



Algerian reinforcements travelling towards the frontline, along a desert road, in a mix of civilian trucks. (Albert Grandolini Collection)



Algerian Mi-4s and MiG-15s at Mecheria airfield during the Sand War. Although very far away from the battlefield and working under primitive conditions, it was from here that they flew their first combat sorties. (Albert Grandolini Collection)



Moroccan Army units hidden underneath palms from the prying eyes of Algerian artillery scouts. (Albert Grandolini Collection)

During the last two days of this war, the fighting raged along most of the border between Algeria and Morocco, and the FAR eventually managed to make few additional gains. However, it failed to win a clear-cut victory, and while most accounts of this war point out that the Moroccans proved qualitatively superior to the ANP, this operation also revealed inherent weaknesses in their command and staff structure.⁶⁵

Theoretically, the Sand War was solved through a Treaty of Solidarity and Cooperation, signed by Algeria's president Boumedienne and Morocco's King Hassan II in January 1969. However, while such conciliatory moves dampened tensions between the two countries, basic issues remained, and rivalry soon re-emerged.

Chapter 6

Vibrant 1970s

While the short but bitter war between Algeria and Morocco of 1963 remained limited in scope – in addition to as many as 200 Moroccans and 300 Algerians reportedly killed, hundreds of injured, and another 57 Moroccans and 379 Algerians taken prisoner – it had far reaching consequences. Foremost, it laid the foundations for intense hostility and rivalry between Algeria and Morocco that are deeply felt until this very day. Indeed, this war provoked an outright arms race between the two nations, which in turn strongly influenced their state in the 1970s.

Morocco Turning West

In Morocco, there is little doubt over who won the Sand War. Accordingly, the smaller, but professional Moroccan military which relied upon its strong warlike traditions, ran a successful campaign while fighting on near equal material terms. However, the Cuban assistance should have provided Algeria with a four-to-one advantage. Therefore, as soon as the issue of the cease-fire was resolved, and although forcing the USAF to close all of its bases in the country earlier in 1963, King Hassan II's politics turned overtly pro-Western. Furthermore, already during the war, he had received a visit from Meir Amir, the chief of the Israeli foreign intelligence service Mossad, and struck a deal: in exchange for provision of Israeli assistance in training Moroccan Army troops and MiG-17-pilots, and dozens of AMX-13 light tanks (in a deal arranged via



The first CO of the FARM F-5 squadron (initially based at Kenitra AB) Colonel Abdallah Amar (second from left, previously qualified as a T-33 and Mystère IVA pilot in France), shakes hands with US representatives during the hand-over ceremony for the first F-5A Freedom Fighter delivered to Morocco. (Tom Cooper Collection)

Iran), he was to provide intelligence on diverse Arab countries and statesmen. For all practical purposes, the Moroccan king thus began acting as an Israeli agent.⁶⁶

The consequences of these decisions became obvious before

long. On 1 February 1964, the ARC was separated from the army and re-organized as the *Force Aérienne Royale* (Royal Air Force, FAR), becoming an autonomous entity, co-equal to other branches of the military. During the same year, Rabat entered negotiations with the administration of US President Lyndon B Johnson with the aim of obtaining military aid from the USA. Washington reacted by granting permission for deliveries of two additional C-119Gs and four C-47s, along with two Hiller UH-12E helicopters from surplus stocks, but otherwise offered only a US\$10 million loan to finance purchases for the FAR. Additional and often intensive negotiations eventually resulted in the US decision to provide 18 Northrop F-5A Freedom Fighters single-seat fighter-bombers, two

RF-5A single-seat reconnaissance fighters, and four F-5B two-seat conversion trainers, in late 1964.

Although the USA eventually agreed to help the FAR re-vamp its combat component, and proved ready to finance not only the training of Moroccan pilots and ground personnel in the USA, but also to finance the F-5 deal to a degree where Morocco only had to pay for their pylons, drop tanks, spares, and armament, the state of Rabat's finances was such that it could not afford acquiring these aircraft at once. The first group of Moroccan pilots and ground personnel was trained at Williams Field, Arizona, in 1965, while subsequent training sessions took place under the control of the MUSLO, at Kenitra, in the period 1966-1969. Deliveries that should

Table 1: F-5s known to have been delivered to Morocco

Version	Construction number & Serial	FARM serial	Notes
F-5B	N6005B...65-13072	13072	built as NF-5A 63-8368; delivered to Morocco in 1966; instructional airframe at Marrakesh, 2008
F-5B	N6006B...65-13073	13073	built as NF-5A 63-8360; delivered to Morocco in 1966
F-5A	N6223...66-9119	69119	delivery date unknown; preserved as gate-guard at Meknes
F-5A	N6224...66-9120	69120	delivery date unknown; shot down 10 February 1979
F-5A	N6266...66-9162	69162	delivered in 1967; withdrawn from use
F-5A	N6267...66-9163	69163	delivered in 1967; withdrawn from use
F-5A	N6326...67-21243	21243	delivered in 1968; written off at Meknes AB, Nov 1978, instructional airframe at Marrakesh, 2008
F-5A	N6327...67-21244	21244	delivered in 1968; withdrawn from use in 1990s
F-5A	N6328...67-21245	21245	delivered in 1968; withdrawn from use in 1990s
F-5A	N6329...67-21246	21246	delivered in 1968; withdrawn from use in 1990s
F-5A	N6330...67-21247	21247	built for FARM but delivered to Turkey instead
F-5B	N8049...67-21272	21272	built for Taiwan but delivered to Morocco in 1968 instead
F-5A	N6458...69-7092	97092	delivered in 1970; fate unknown
F-5A	N6459...69-7093	97093	delivered in 1970; existent as of 2006
F-5A	N6460...69-7094	97094	delivered in 1970; existent as of 2006
F-5A	N6464...69-7098	97098	built for Taiwan but delivered to Morocco in 1970; fate unknown
F-5A	N6465...69-7099	97099	built for Taiwan but delivered to Morocco in 1970; shot down on 21 January 1976
F-5A	N6466...69-7100	97100	built for Taiwan but delivered to Morocco in 1970; fate unknown
F-5A	N6472...69-7106	97106	delivered in 1970; fate unknown
F-5A	N6473...69-7107	97107	delivered in 1970; fate unknown
F-5A	N6474...69-7108	97108	delivered in 1970; withdrawn from service and gate-guard (with RF-5A nose) in Meknes, 2010
F-5A	N6475...69-7109	97109	delivered in 1970; fate unknown
F-5A	N6494...69-7177	97177	built for Iran; delivered to Morocco in 1976; shot down in November 1978
F-5A	N6500...70-1378	01378	built for Iran; delivered to Morocco in 1976; fate unknown
F-5A	N6511...70-1389	01389	built for USAF; delivered to Morocco on 15 May 1974; fate unknown
F-5B	N8080...70-1610	01610	built for Taiwan but delivered to Morocco in 1970; fate unknown
RF-5A	RF1054...70-1614	01614	delivered in 1971; withdrawn from use in 1990s
RF-5A	RF1055...70-1615	01615	delivered in 1971; withdrawn from use in 1990s
F-5A	N6546...71-0276	10276	delivered on 15 May 1974; fate unknown



A rare photograph of two FARM F-5As (serial numbers 66-9120 and 66-9162) in the late 1960s or early 1970s. (Tom Cooper Collection)

have been complete in 1966 went on for six years: by 1967, only the first three single-seaters were in Morocco, followed by another five in 1968. The rest followed until 1974, by when the total number of aircraft actually delivered was slightly altered: as far as is known, no fewer than 22 F-5As eventually reached Morocco, together with four F-5Bs, and two RF-5As, as listed in table 1.⁶⁷

Moroccan Air Force of the early 1970s

While the delivery of 25 F-5As, 2 F-5Bs and 2 RF-5As was expected to significantly improve the overall capability of the FARM, due to continuous underfunding and lack of commitment by Washington, the state of the Moroccan military remained less than satisfactory in the early 1970s. Indeed, the kidnapping of the exiled Moroccan oppositional leader Medhi Ben Barka by Moroccan intelligence services in France, in 1966, prompted Paris to temporarily suspend all provision of aid. For years, the cooperation with the two Western powers thus worked on an on/off basis, and deliveries proceeded in a rather haphazard fashion. For example, the USA added four Kaman HH-43B Husky helicopters, while the French furnished a batch of armed T-6Gs, and 24 ex-West German CM.170 Magisters (all of which were overhauled in France before delivery to Morocco).

The reaction of Rabat can only be described as 'typical for this period': it started seeking new sources of military equipment – foremost in eastern Europe. This is why Morocco then placed an order for T-54 MBTs, and OT-62 and OT-64 APCs in Czechoslovakia, and BM-21 multiple-rocket launchers, ZSU-23-4 Shilka self-propelled anti-aircraft guns and Strela-2M (ASCC/NATO-code 'SA-7 Grail') MANPADs in the Soviet Union, in the mid-1970s. Next, and following an acquisition of 12 Agusta-Bell AB.205 helicopters from Italy in 1968, additional orders were placed with Rome, resulting in the deliveries of a total of 48 AB-205s, 25 AB-206s, 2 AB-212s and 9 CH-47Cs by 1977. An Italian advisory mission arrived in the country in September 1969, consisting of five officers from the Italian Air Force and four from the Italian Army

Light Aviation. Based in Rabat, they were responsible for helicopter pilot and maintenance training. About 80 French instructors were supporting the every-day work of the air force, together with much smaller groups of Americans (responsible for training of fighter and transport-pilots) while about 50 Moroccan trainees underwent courses in France every year.⁶⁸

By January 1972, the FARM reached a personnel strength of 3,100 (of whom 165 were officers and mere 300 were conscripts), including 130 pilots, 160 pilot trainees, and 165 other aircrew. Some 165 were fully qualified officers, all of whom underwent one year of training at the Royal Military Academy at Meknes, prior to receiving three years of specialized education at the Air Force Academy at Marrakesh AB – much of which was sponsored by the Iranian government. The aviation cadet program included an elementary flight training of 98 hours on T-6s, and an intermediate course of 66 hours of day and night instruction on T-6s (and on CM.170s for jet pilots) – with all flight instruction provided in French by a group of 20 French instructors. Upon completing the intermediate phase, future pilots received two years of specialized education. However, not only was no tactical or combat training provided: average classes consisted of only about 15 students, and with the average wash-out rate reaching nearly 40%, the pilot output averaged only about 10 a year. Correspondingly, after attaining little more than basic flight and technical skills, all of the Moroccan pilots required additional training abroad.⁶⁹

These personnel and a total of 182 aircraft and helicopters (of which 138 were operationally assigned) were organized as described in the table 2.⁷⁰

Unrest within the FAR

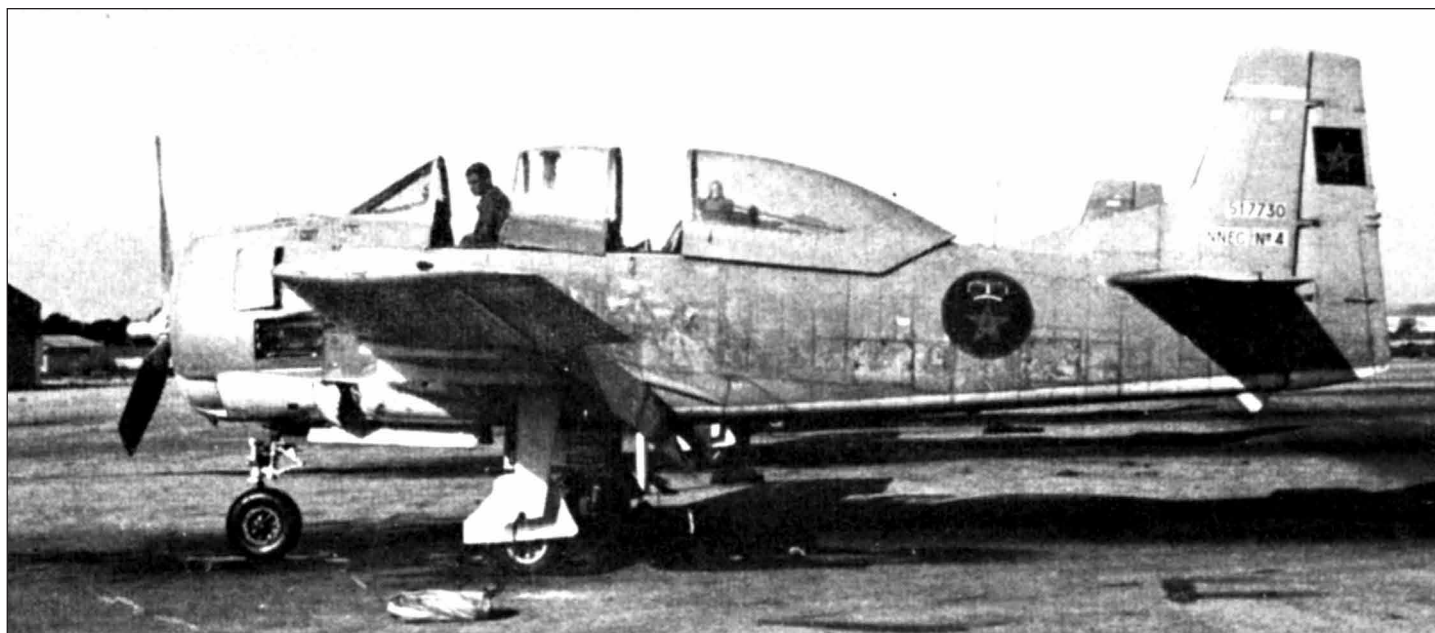
In January 1969, Algeria's President Boumedienne and Morocco's King Hassan II concluded a Treaty of Solidarity and Cooperation, and in May 1970 their governments reached an agreement on demarcation of the disputed border. While these conciliatory

Table 2: FAR Order of Battle, 1972

Unit	Base	Equipment	Remarks
1st Fighter Squadron	Kenitra (3e BAFRA)	20 F-5A/B and RF-5A, 1 AB.205	
2nd Fighter Squadron	Meknes (2e BAFRA)	21 T-28, 18 CM.170	
1st Transport Squadron	Rabat-Sale (1e BAFRA)	11 C-119G, 10 C-47	
Utility Squadron	Rabat-Sale	11 MH.1521	
Helicopter Squadron	Rabat-Sale	11 AB.205, 3 HH-43B, 2 SE.3130	
Training Squadron	Marrakech (RTAB)	34 T-6, 12 CM.170	16 T-6 and 8 MS.733 in storage



Since the mid-1960s, the C-119G Flying Boxcar was the primary transport of the FAR. Eleven were in service as of 1972. (Albert Grandolini Collection)



The number of available T-28s decreased to about 20 by 1972: in service with the 2nd Fighter Squadron, the type had COIN as its primary role in Morocco. (Albert Grandolini Collection)

moves dampened tensions between the two countries, the FAR continued improving its general readiness: during the early 1970s, it made considerable progress and improvement in regards of its reorganization, and thus Rabat opened negotiations with Washington for the acquisition of additional equipment. However, what could be described as 'US influence' had its price: months, and sometimes years-long training courses for Moroccan pilots in the USA had exposed them to a different culture, and different ideas: many became aware of negative consequences of King Hassan II's brutal and despotic rule, haphazard decisions, and overt corruption. Dissent began to spread within the military and several groups of officers began plotting coups d'états.

The first attempt was masterminded by Major-General Mohammed Oukfir (Minister of Interior) and General Mohammed Madbouh (Director of the Royal Military Household and one of the king's closest military advisors). Leading around 1,500 cadets of the Ahermoumou Academy for non-commissioned officers (NCOs), Madbouh stormed the Royal Palace at Skhirat while the king was entertaining about 500 foreign dignitaries and local officials on his birthday, 10 July 1971.

As the NCOs armed with rifles and submachine guns began

firing wildly into the crowd, Hassan II narrowly escaped being killed by hiding in a toilet. For the next two hours, Madbouh attempted to negotiate with the king, but Hassan refused to step down. The turning point occurred when Madbouh was killed – apparently by accident: the NCOs wore the same uniforms as the Royal Guards, and in the confusion there was much friendly fire. Around the same time a company of 17 Panhard EBR75 armoured cars commanded by Lieutenant Ahmed Rami arrived on the scene: these were deployed from their base at Camp Moulay Islami, outside Rabat, on order from Lieutenant-Colonel Mohammed Abaroudi, and the Chief of Staff of the FAR's sole armoured regiment, Colonel Sa'ad, both of whom managed to escape the initial onslaught on the palace. Rami was actually plotting a coup against the king too, but had no knowledge of Madbouh's plan, therefore, instead of joining the plotters, his unit inadvertently reinforced the royalists. The arrival of armoured cars in front of the Royal Palace effectively signalled the end of the mutiny: by then, the NCOs were out of ammunition and, left leaderless, most of them switched their support to the king.⁷¹

Meanwhile, Lieutenant-Colonel Mohammed Ababou, Commander of the NCO school, led a group of soldiers to Rabat to seize control of key government installations, including the radio

station, the ministries of defence and interior, and armed forces headquarters. However, this group ran into a sizeable unit of loyal troops, led by Major-General Bachir Bouhali, Chief of the General Staff, FAR. Although Ababou and Bouhali were both killed in the ensuing clash, the loyalists regained control.⁷²

As soon as he was safe from harm, and without any clarity about the full extent of the coup, King Hassan II credited Major-General Oukfir and Lieutenant Rami for aborting the coup. Therefore, he appointed Oukfir as the minister of defence – with Rami as his adjutant – and bestowed unlimited powers upon him. Together with Major-General Driss Ben Omar (Minister of Post, Telephone and Telegraph), Oukfir restored order to near normal within a mere 24 hours.

The top ranks of the FAR were virtually destroyed during this coup: at least 9 out of 16 top generals were killed in the initial fracas. Four other generals and six lower-ranking officers were executed on the next day. Mid and lower ranks suffered at least as much: while dozens of cadets involved in the mutiny and captured during the fighting are said to have been buried alive in a common grave, 1,083 officers, cadets and NCOs were tried by a military tribunal, in early 1972: one was condemned to death, three were sentenced to life imprisonment, 70 received prison sentences ranging from 1 to 20 years, and the remainder acquitted.⁷³

Air Force Coup of 1972

Having received broad responsibilities, Oukfir restructured the entire Moroccan military during the following months – but also began plotting a new coup. This was to see the involvement of only 14 or 15 officers, but amongst these were several top commanding officers (COs) of the FAR, including the CO of Kenitra AB, Lieutenant-Colonel Amerkrane, and his predecessor in that position, Major Mohammed Ouail Kouera.⁷⁴

Oukfir's plan was set in motion on 16 August 1972, when he and his aides brought the control tower at Kenitra under their control, as a Boeing 727 airliner carrying the king and his entourage was expected to arrive from a visit to France. Three F-5As led by Major Ouail were then scrambled to intercept. The fighters attacked as the airliner was 40km (25 miles) north of the base. Much to the dismay of their pilots, it turned out that their guns were loaded with practice ammunition only: although scoring a number of hits on the 727, and disabling two engines, they did not manage to bring it down. An attempt by one of the F-5 pilots to ram the Boeing was also unsuccessful as the king's private pilot, a Yugoslav known only by his first name, Djordje, and his co-pilot, Colonel Kabbaj of the FAR, skilfully manoeuvred the badly damaged airliner. Finally, Djordje fooled the F-5 pilots by calling them on the radio and stating that the king had been mortally wounded, causing them to break off their attack: this made it possible for Djordje to make a successful emergency landing at Rabat-Salé IAP.⁷⁵ Once there, King Hassan II was immediately taken to the safety of the French embassy, and thus avoided another attack by F-5s, which only minutes later strafed the airport buildings and Royal Pavilion at Rabat-Salé, and then the Royal Palace. Eventually, Major Ouail ran out of fuel and ejected safely near Kenitra. He was arrested soon after, together with dozens of other officers and other ranks, as the base was secured by loyalist troops.

The reprisals and the purge of the entire military that were to follow this second coup attempt were as widespread as savage: General Oukfir was executed on the spot, while nearly all of the F-5 pilots were arrested by loyalists and most of them 'disappeared'. Lieutenant-Colonel Amerkrane and another senior officer then



Major Ouail Kouera led the formation of three F-5As during the coup attempt of August 1972. (Albert Grandolini Collection)



Commander of Kenitra air base, Lt Col Amerkrane, was also involved in the coup plot. (Albert Grandolini Collection)

commandeered an AB.205 helicopter from Kenitra and fled to Gibraltar, seeking asylum. British authorities refused and handed both men over to the king: together with six other coup-plotters, they were publicly executed on Eid el-Kebir, one of holiest days of the Muslim faith – in an execution that was televised live. Commanders of the air force and the navy were relieved of their posts (probably because of their past associations with Major-General Oukfir), while over 400 other military officers — whether involved or alleged to be accomplices — were arrested and tortured, often in personal attendance, if not outright participation of King Hassan II. Survivors underwent a show trial the verdict of which was announced on 7 November 1972: 11 were sentenced to death, 32 received sentences ranging from 3 to 20 years, and 177 were acquitted.⁷⁶



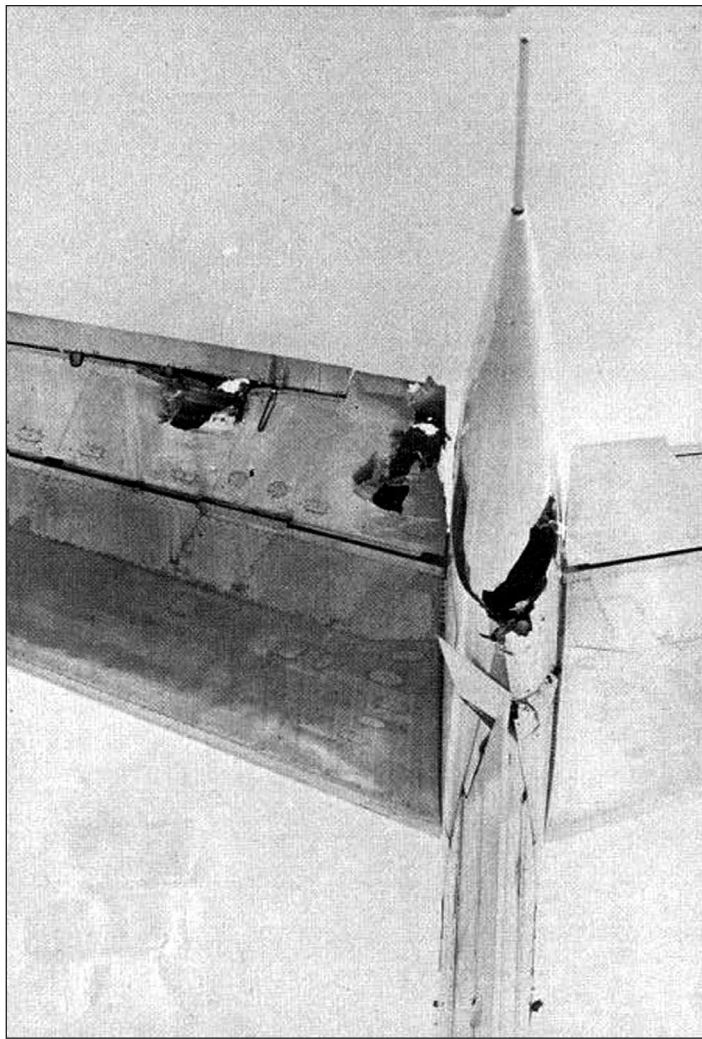
Evacuation of King Hassan and his aides from the Boeing 727 with help of a helicopter. (Albert Grandolini Collection)



The Boeing 727 that carried King Hassan II shortly after landing at Rabat-Salé. (Abdesalam Bouziane Collection)



One of the holes in the fuselage of the Boeing 727, caused by gun fire from the three F-5As involved in the coup attempt. (Albert Grandolini Collection)



The tail section of the Boeing 727 with clear traces of damage caused when the airliner was attacked by F-5 fighters. (Tom Cooper Collection)

Slow Recovery

The coup of 1972 had major repercussions in what was – at least in theory – promising to become the first major combat deployment of the FAR: a war against Israel. During the visit by the Egyptian Chief-of-Staff, Major-General Sa'ad el-Shazly in Morocco of February 1972, King Hassan II promised to deploy one squadron from the air force and an independent armoured brigade from the Army to Egypt, in the case of another war with Israel. Whether the king had any serious intention to keep his word remains unclear: what is certain is that the coup prevented him from fulfilling his promise in regards of the F-5s. Instead, in early 1973 he did order the deployment of a mechanized brigade of the FAR commanded by General Abdesalam Sefrioui – but to Syria. It was only during October 1973, that another mechanized brigade (commanded by Colonel Hassan Hatimi) was deployed to Egypt, followed by a squadron of 12 F-5As. French officials with insider knowledge eventually concluded that the primary motive for both decisions were not related to the idea of pan-Arabism, but with the king's wish to keep potentially disloyal officers well away from Rabat.

Whatever the motives, the FAR units acquitted themselves at least reasonably well in Syria, but saw next to no action in Egypt. The F-5A squadron was scrambled only once: on 6 December 1973, Israel deployed a formation of McDonnell Douglas F-4E Phantom II fighter-bombers into an attack on Egyptian SAM-sites west of Suez City. The Egyptian air force reacted by scrambling eight of their own, and four North Korean-flown, MiG-21s from nearby



Colonel Kabbaj flew as co-pilot of the 727 that carried the King of Morocco, and was subsequently appointed the new commander of the Moroccan air force. (Albert Grandolini Collection)

air bases into the skies over the Red Sea. Additionally, a pair of Moroccan F-5As was scrambled in the direction of the combat zone, but held outside of it. The North Koreans were directed to engage four Phantoms under way at medium altitude: although one of their pilots claimed a kill, another had his MiG damaged by two air-to-air missiles and was forced to make an emergency landing at Wadi Qena AB. The Egyptian-flown MiG-21s managed to prevent an incoming flight of Mirages from ambushing the North Koreans, but during the ensuing dogfight they lost the aircraft flown by Captain Hussein Thabet: he was forced to eject over the Red Sea and subsequently captured by the Israelis. Finally vectored into the combat zone, the two Moroccan F-5s arrived at the scene much too late to see any combat.⁷⁷

In the meantime, the King of Morocco went to great lengths in purging the military – and the air force in particular. Furthermore, he abolished the positions of Minister of National Defence and Major General of the Royal Armed Forces, took over direct control of the FAR, and disbanded all six brigades of the army: their former organic elements were re-deployed throughout the country, principally around urban centres of Taza, Meknes, Ksar es-Souk, Marrakesh, and Sidi Ifni. The net result of this unrest, and the king's subsequent decision, was that for years afterwards the Moroccan military was in no condition to operate effectively. Indeed, although Colonel Kabbaj – who was appointed the new commander of the air force, as a reward for his loyalty to the king – went to great extents to re-organize and bolster the air force, shortages of experienced commanders, and deficiencies in equipment and logistics eventually reached such proportions that as of early 1973, US intelligence assessments were still questioning the ability of the FAR to hold up an Algerian military invasion for longer than a few days.⁷⁸

Indeed, the severity of purges was felt nowhere as severely as within the air force: after the coup of August 1972, over 200 airmen were arrested. The bulk of them were from the operational fighter force at Kenitra AB, where the number of qualified fly fast jet aircrews dropped from 21 to 5. Furthermore, all the personnel and equipment of the Kenitra AB were re-located to Meknes AB. The air force not only lost at least one of the F-5As involved in

the coup: another of the aircraft flown by coup-plotters ended its days literally chained-down in a corner of a hangar at Meknes. Two other examples were lost during the Independence Day parade in Marrakesh, on 17 November 1976, when one F-5A and one F-5B collided in flight, killing all three pilots on board.⁷⁹

The two coups had their positive consequences, too: in the period 1972-1974, the king took care to get his military intensively involved in civic action work. The army thus found itself constructing roads, bridges, dams, housing, schools, dispensaries, hospitals, and irrigation systems, and did a lot of emergency relief work and rescue work following earthquakes and floods. The military also trained civilian personnel for various government agencies, conducted schools for administrators of the ministry of interior and for livestock managers of the ministry of agriculture, and provided training in various civilian-type occupations to about 5,000-7,500 young men serving their 18 months of military service, every year. All these activities were given wide publicity, with the result that the reputation of the FAR gradually recovered, and it began enjoying considerable respect and prestige in the population.

King Hassan's Mirages

Eventually, it took plenty of foreign assistance for Colonel Kabbaj to recover the air force. His primary aim was to make the FAR self-reliant. Correspondingly, between 1972 and 1974, enough technicians were trained to develop a fairly good maintenance capability for piston-powered aircraft and helicopters in the form of the *Atelier Magasin General* (General Workshop, AMG) at Casablanca/Anfa airfield. Sud Aviation of France provided maintenance and instruction on C-47s, while the Belgian company SABENA was providing advice in maintenance of C-119 transports – the number of which was maintained through the acquisition of three surplus airframes from Italy and seven from Canada in 1973. However, due to the lack of funding and know-how, the FARM was still completely dependent on outside assistance for maintenance of its jets. Furthermore, it was chronically short on spares: stocks of these were sufficient for only about 30 days of intensive operations.⁸⁰

By 1973, the serviceability of the remaining C-119s was declining rapidly, and they were obviously in need of replacements. Rabat was therefore happy to accept a US offer of six Lockheed C-130H Hercules transports, and deliveries of these commenced in 1974, when six Beech King Airs were also acquired for liaison purposes. Nevertheless, the first Moroccan request for 20 Northrop F-5E Tiger IIs and 4 F-5F two-seat conversion trainers was turned down by Washington. For the time being, the USA proved ready only to help refresh the FARM's training component through delivery of 12 Beech T-34C trainers. Left without a choice, King Hussein II turned to France for assistance. Following extensive negotiations, a major arms deal – codenamed 'Safram 1' – was signed on 19 December 1975. Financed by Saudi Arabia, this envisaged the deliveries of 25 Dassault Mirage F.1CH fighter-bombers, 38 Aerospatiale SA.330 Pumas (of which 34 for the FARM and the others for the Gendarmerie), and 10 Swiss-made AS.202 Bravo basic trainers for the period December 1977 – December 1979.⁸¹

The Mirage F.1CH were interceptors, generally similar to the original F.1C variant built for the AdA, equipped with the Cyrano IV radar that supported the deployment of Matra R530FE radar-homing air-to-air missiles. The type had been designed from its inception with overseas deployment, and operations from short, semi-prepared runways, in mind. Correspondingly, it was equipped with a self-starting system and other autonomous features that required a minimum of ground handling equipment – all of which

was easily air transportable. As in the case of the Jaguar, the rest of the avionics suite was relatively simple. The only true 'extras' were the Crouzet EP.115 navigational system coupled with an auto-pilot, and the compatibility with COR-2 pods for reconnaissance cameras.⁸²

Because Morocco purchased no two-seat conversion trainer variant of the Mirage F.1CH, all the related training had to be undertaken in France. Lacking pilots qualified to fly fast jets, the FARM arrived at the logical decision of converting its F-5-pilots to the new type. This in turn left the 1st Fighter Squadron – already mauled by purges after the coup of 1972 – drained of personnel.

Mauritanian Expansion

The Islamic Air Force of Mauritania experienced a period of significant growth through the early 1970s. As ever more of the native pilots and ground personnel completed their training, in 1971, the FAIM was re-organized into the Transport Squadron (*Escadrille de Transport*), operating C-47s, and a Liaison Squadron (*Escadrille de Liaison*) operating Broussards, and also seven second-hand Reims-Cessna F.337 Skymasters. In 1974, the FAIM acquired two Douglas C-54s and, in November 1975, two Short Skyvan 3Ms.⁸³

The availability of Skyvans left lasting impressions: that type's capability to operate from short and rough runways under most primitive conditions, was deeply appreciated, and influenced the decision to place an order for four Britten-Norman BN.2A Defender light transports in 1976. Delivered fully equipped to carry pods for Oerlikon-Bührle SURA 80/81mm unguided rockets and 30mm cannons, Defenders became the first combat aircraft of Mauritania and initially proved ideal COIN platforms. A total of nine were acquired over time and they served with the Nouakchott-based Reconnaissance Squadron (*Escadrille de Surveillance*) – a unit that was further reinforced through acquisition of four Reims-Cessna FTB.337G Miliroles during the same year.

Mauritania subsequently entered serious negotiations with Argentina, but an almost-concluded-deal for the acquisition of FMA IA.58 Pucara light fighter-bombers was cancelled due to financial considerations. Instead, the FAIM was reinforced through the acquisition of four de Havilland Canada DHC-5D Buffalos.⁸⁴

Table 3: FAIM Order of Battle, 1976-1978⁸⁵

Unit	Base	Equipment
Reconnaissance Squadron	Nouakchott	BN.2A, FTB.337G
Transport Squadron	Nouakchott	C-47, C-54, Skyvan 3M, DHC-5D
Liaison Squadron	Nouakchott	F.337, MH.1521
Helicopter Squadron	Nouakchott	equipment unclear

Booming Algeria

After the Sand War of 1963, work on the build-up of the Algerian air force was significantly intensified. The Soviet Union immediately provided a loan of US\$ 100 million for arms to strengthen Algeria's defences, and about 1,000 military instructors, while 3,000 Algerian officers and other ranks were sent to the USSR for training. Highly experienced Ait-Messaoudène was appointed to take responsibility the training of additional personnel, and was replaced by two senior staff officers: Colonel Moussoni was appointed the new commander of the QJJ, with Lieutenant-Colonel Latreche as deputy. These two officers were to lead the QJJ through the following 20 years.⁸⁶

The results of Ait-Messaoudène's related efforts became obvious already by 1964. He played a decisive role in establishment of the

National Flight School (NFS) at Tafaroua AB, where flight instruction was provided by a group of Egyptian instructors. Over time, this institution was further expanded until it became an equivalent of the air force academy.⁸⁷ Another important training institution – the National Technical Aeronautical School – was established in Blida. Ever since, these two academies have covered all the training needs of the QJJ. Finally, he reached a discrete agreement for training of Algerian pilots in France: the first group underwent a basic flight course on T-6s at Cognac, already in 1964. Both sides considered this affair so sensitive, that all the Algerian cadets wore civilian clothes, and their nationality was hidden even from their French instructors!⁸⁸

The QJJ needed new pilots urgently, because during the same year it received 20 additional MiG-15bis fighters from the USSR. These were used to establish the *15e Escadron de Chasse* (fighter squadron) – its first combat unit. Even before this squadron was declared operational, Algiers placed orders for deliveries of MiG-17s and MiG-21s from Moscow. The first of at least 30 MiG-17s had arrived a year later, together with a group of pilots fresh from training in Bulgaria. These enabled the QJJ to establish its second fighter squadron: while the exact designation of this unit remains unconfirmed, this was most likely the *19e Escadron de Combat* (literally ‘combat squadron’), better known as ‘Snake Squadron’. While commanded by Ait-Messaoudène – who due to his expertise and restless efforts meanwhile reached the rank of a living legend – this unit developed into the premier Algerian fighter outfit during the second half of 1960s.

On the contrary, the stars of the first Algerian president were not as bright: Ben Bella’s unrealistic ideas about socialism and revolutionary interventionism provoked a military coup of 19 June 1965, led by his minister of



One of the most important reinforcements for the FAIM in the early 1970s was the acquisition of a total of seven Reims-Cessna F.337 Skymasters and four FTB.337G Miliroles. The type had excellent endurance and could be armed with gun and rocket-pods. (Albert Grandolini Collection)



This was the first of two Short Skyvan 3Ms acquired by Mauritania in November 1975. (Albert Grandolini Collection)



Experience with Skyvans encouraged the Mauritians to purchase four Britten-Norman BN.2A Defender light transports, which in turn could be equipped with gun and rocket-pods. These were to play a prominent role during the subsequent Mauritanian involvement in Western Sahara. (Albert Grandolini Collection)



The last important acquisition by the FAIM in the 1970s included the purchase of four DHC-5D Buffalos, in 1978. (Albert Grandolini Collection)

defence. The president was deposed, charged with treason, and forced into exile, while a 26-member Council of the Revolution headed by Boumedienne assumed full powers. The new government immediately found itself severely criticised by the European leftists, particularly after it banned the Algerian Communist Party and signed an agreement with France to regulate the production and sale of Algerian petroleum and natural gas. However, the QJJ profited from such measures because much of the oil income was spent for its further expansion – even more so once all the sources and industry related to the hydrocarbons were nationalized in 1971.

In late 1965 and through 1966, Algeria received two batches of 12 MiG-21F-13s each, and then placed orders for additional interceptors, as well as 14 Ilyushin Il-28 bombers. New aircraft and the availability of additional personnel trained abroad enabled the establishment of five fighter squadrons and an Operational Training Unit (OTU), based at Laghouat, Bou Sfer, Colomb Bechar and Tindouf, by early 1967. Additionally, the *27e Escadron de Bombardier* (Bomber Squadron) operated 14 Il-28s from Mécheria. Nevertheless, when Egypt requested help from Algeria during the

June 1967 War with Israel, the QJJ was not combat ready and only able to provide a total of 20 MiG-17Fs, 20 MiG-21s and 12 Il-28s – without any crews.⁸⁹

The June 1967 War, as well as the coup attempt against President Boumedienne by a group of officers led by Colonel Tahar Zbiri, in December of the same year (undertaken without any support from within the QJJ: indeed, a number of pilots refused calls to participate), prompted the government to massively increase investments in industry and agriculture – resulting in unprecedented economic growth. Further impetus to this development was provided by Algeria playing a key role in the first significant increase in crude oil prices for decades. Flush with new income, Algiers placed a number of large arms orders with the USSR in the late 1960s: by 1972, the QJJ – the personnel strength of which nearly doubled due to the return of thousands of officers and other ranks from training abroad in a matter of only four years – absorbed about 250 aircraft and helicopters. It was not only re-equipped but also expanded through the acquisition of 52 MiG-21MFs, MiG-21Rs and MiG-21UMs, and 40 Sukhoi Su-7BMKs.

Table 4: Known QJJ Units as of September 1973

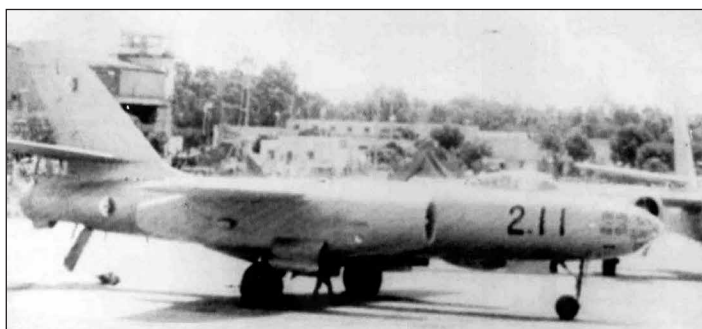
Unit	Base	Equipment	Remarks
11e Escadron de Chasse	Tindouf	MiG-21FL	
12e Escadron de Chasse	Ain Oussera	MiG-21FL and MiG-21R	
14e Escadron de Chasse	Laghouat	MiG-17F	deployed to Egypt in October 1973; subsequently re-equipped with MiG-21MF
15e Escadron de Chasse	Colomb-Bechar	MiG-21FL	
17e Escadron de Chasse	Laghouat	MiG-17F	deployed to Egypt in October 1973; reorganized as OTU with MiG-21s after returning to Algeria, 1974
19e Escadron de Combat	Bou Sfer	MiG-21MF	multi-role unit
21e Escadron de Attaque	Mécheria	Su-7BMK	deployed to Egypt in October 1973
23e Escadron de Combat	Boufarik	MiG-21MF	multi-role unit; deployed to Egypt in October 1973; afterwards disbanded, aircraft redistributed between 11, 15, and 19 Squadrons
27e Escadron de Bombardier	Mécheria	Il-28	in the process of conversion to Su-7BMK
28e Escadron de Attaque	Mécheria	Su-7BMK	working up, re-deployed to Laghouat after reaching initial operational capability
31e Escadron de Transport	Boufarik	An-12BP	
32e Escadron de Transport	Boufarik	An-12BP	
34e Escadron de Transport	Boufarik	Il-14	
36e Escadron de Transport	Boufarik	Il-18	
43e Escadron	Biskra	Mi-2, Mi-8	a SAR flight with 2 Mi-2s was present on all other air bases
44e Escadron	Biskra	Mi-2, Mi-8	unit possibly based at Blida
46e Escadron	Blida	Hughes 269A, SA.330B	
48e Escadron	Blida	Mi-6	established 1970; Mi-6 withdrawn from service in 1986
58e Escadron de Liaison et VIP	Boufarik	Beech D.18S	
NFS	Tafaroui	Gomhouriya, C-11 (Yak-11)	
NFS/61e Escadron d'Entrainement	Tafaroui	MiG-15UTI	
NFS/62e Escadron d'Entrainement	Bou Sfer	CM.170 Magister	Unit later re-deployed at Tafaroui
NFS/63e Escadron d'Instruction et d'Appuis	Bou Sfer	CM.170 Magister	Unit later re-deployed at Tafaroui

Furthermore, in October 1967, Paris made the decision to vacate its remaining bases in the country and initiated an evacuation of Mers-el-Kebir, Reggane, and Hammaguir. By 1968, all French personnel were out of the country – with the exception of about 300 stationed at Bou Sfer (then a small airfield outside Mers-el-Kebir), that maintained a staging post for the support of French forces in Central and West Africa, and a team deployed at the top-secret chemical warfare test facility, code-named B2, outside Namous, near the Moroccan border. These two bases were vacated only in 1978.

While this decision is often explained as being under pressure from Algiers, there was none of that: instead, the French seem to have withdrawn on their own, apparently due to economic reasons. On the contrary – and despite deep (and mutual) mistrust – the Algerians remained careful enough to maintain at least ‘working relations’ with Paris, and thus not only placed orders for aircraft and helicopters from Paris, but also requested the support of French advisors in making these operational. Correspondingly, at the same time up to 1,000 Soviet advisors were helping the QJJ work-up a total of seven squadrons equipped with MiG-21s and Su-7, 340 French advisors were assisting the establishment of two dedicated counter-insurgency (COIN) squadrons (assigned to the NFS that meanwhile re-deployed to Oran), equipped with around 28 ex-West German Fouga CM.170 Magisters, and working up a small unit equipped with Aerospatiale SA.330B Puma helicopters.



Following the Sand War, the QJJ vastly expanded its training facilities, and established the National Flight School at Tafaroua AB and the National Technical Aeronautical School in Blida, where this photograph was taken. The later was critical for training thousands of ground personnel necessary for the massive build-up of the late 1960s and early 1970s. (Albert Grandolini Collection)



Algeria acquired about 14 Il-28s from the former USSR in the mid-1960s: at least 12 of these were donated to Egypt to replace losses from the June 1967 War with Israel. (Albert Grandolini Collection)



The primary interceptor in QJJ service of the early 1970s was the MiG-21: older MiG-21FLs were in the process of being replaced by 52 MiG-21MFs (one of which is visible in this photograph), a multi-role unit equipped with them was deployed to Egypt during the October 1973 Arab-Israeli War. (Courtesy el-Djeich)



Originally planned to replace Il-28s, 40 Su-7BMKs eventually served with three attack squadrons of the QJJ in the 1970s. One of the units in question was deployed to Egypt during the October 1973 Arab-Israeli War, where its aircraft and pilots saw intensive involvement in combat. (Courtesy el-Djeich)

Overall composition of the QJJ as of September 1973 was as provided in table 4. During the October 1973 Arab-Israeli war, the Algerians were thus capable of transferring two fully-equipped and staffed squadrons of MiG-21s, another of Su-7s, and one unit with 23 MiG-17s to Egypt. Additional QJJ pilots were assigned to several Egyptian MiG-17-squadrons. In the course of related hostilities, Algerian pilots flew around 500 combat sorties from Egyptian air bases, most of these being combat air patrols (CAPs) by MiG-21s, but quite a few including air strikes on the Israeli bridgehead over the Suez Canal near Deversoir. One MiG-21 and one Su-7 were shot down in combat, but no pilots killed or captured.

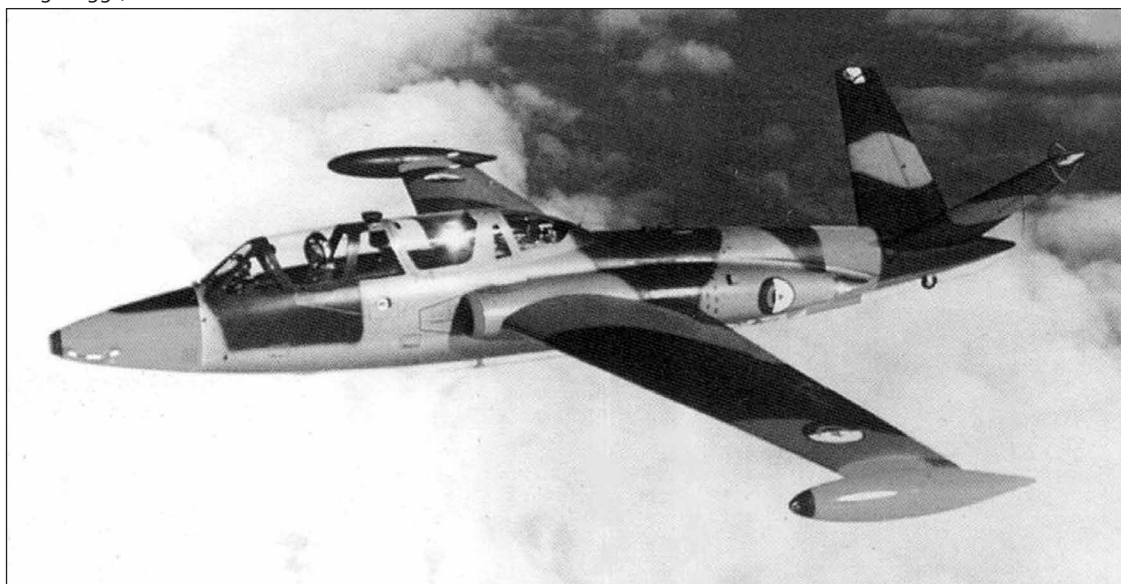
At least as important was the fact that during the war the President Boumedienne made a visit to Moscow and, in the light of Soviets refusing to deliver any kind of new combat aircraft to Egypt, secured an order for 32 Sukhoi Su-20 fighter-bombers for his country. All of these were delivered in the 1974-1975 period but almost immediately forwarded to Egypt: although many subsequent reports therefore cited Su-20s as in service with the QJJ, the fact is that they never served in Algeria.

Soviet Arms Deal of 1975

Concerned over Moroccan expansionism with regards to the Spanish Sahara, and fearing that Rabat might eventually press old claims to the south-western region of Algeria, and also on the basis of experiences from the October 1973 Arab-Israeli War, the Algerian



The primary transport type of the QJJ in the 1970s were venerable An-12BPs, enough of which were acquired to equip two squadrons. They played a prominent role during the October 1973 War, when they not only supported the deployment of Algerian fighter-bombers to Egypt, but ran an air-bridge between that country and Algeria. (Photo by Greg Meggs)



In a little-known deal from late 1967, Algeria acquired 28 ex-West German Air Force Fouga CM.170 Magisters. These were flown by two training units of the NFS based at Bou Sfer, both of which had light strike and COIN operations as their secondary duties. Many of the Algerian Magister-pilots were female. (Albert Grandolini Collection)



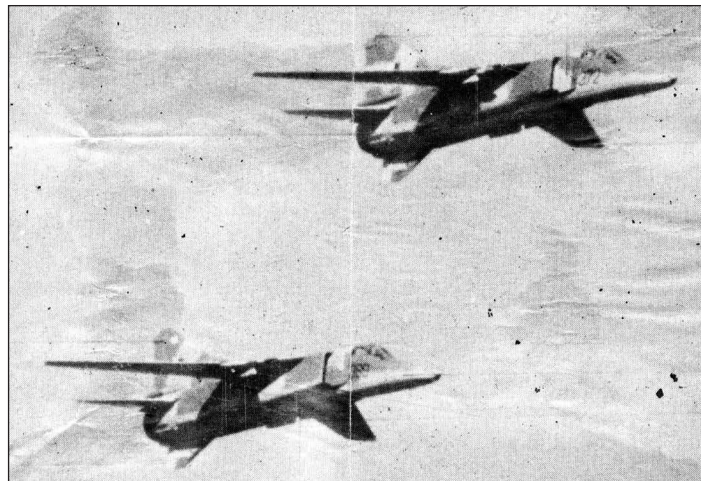
Three of six Beech T-34C Turbo Mentor basic trainers the QJJ acquired from the USA in 1978. (Tom Cooper Collection)

government subsequently decided to significantly upgrade its armed forces. Corresponding intentions were signalled to several governments and, amongst others, the new commander of the QJJ, Colonel Hamid Abdelli – described as a ‘modern and imaginative leader’ even by US intelligence assessments – expressed interest in acquisition of the British Aerospace Hawk trainer, and either 17, 34 or 51 Hawker Siddeley Harrier S.Mk 50 strike fighters and Harrier T.Mk 54 two-seat operational trainer aircraft, in spring 1974.⁹⁰

However, in 1978, after studying the resulting offers for some time, the Algerians only opted to buy six Beech T-34C Turbo Mentor basic trainers (used to replace old Gomhouriyas), and three Fokker F.27 transports made in The Netherlands. Instead, in 1975 Algiers had returned to the practice of purchasing Soviet arms and signed a major arms deal worth US\$500 million with Moscow. Amongst others, this stipulated deliveries of 40 MiG-23BN fighter-bombers, no less than 47 MiG-21bis interceptors, and 16 Mil Mi-8 helicopters.⁹¹

In 1978 – by when the QJJ had 250 pilots, of whom 125 were jet-qualified – in reaction to the Moroccan order for Mirages, Algiers placed another large order, this time requesting another 40 MiG-21s, 16 MiG-23M/MF and 20 Mil Mi-24 attack helicopters. However, and although the Soviets granted permission for delivery of ‘Mach-3 capable’ MiG-25s to Algiers, and about 20 of these were delivered by the next year, negotiations for the rest of this package proved very difficult, the

Soviets demanding far higher prices than expected. To the Algerians, the toughened credit terms – necessitated by Moscow’s increased need for hard currency – significantly diminished the Soviet competitiveness with the West. Furthermore, the Algerians disliked the idea of the Soviets – despite their stiffer terms – still attempting to use their preeminent position as an arms supplier to gain special privileges in Algeria. Because of unexpectedly high prices, but also due to a downturn in the global oil prices, it took nearly four years to finalize the related negotiations, and these orders were to remain the last such deals for nearly a decade.



These two MiG-23BNs (serial numbers 372 and 389) belonged to the batch of 40 such fighter-bombers Algeria acquired from the USSR in period 1978-1980.

Chapter 7

The Last Years of the Spanish Sahara

Lacking profitable resources, for most of the early 20th Century the Spanish Sahara was seen by Madrid as an ‘unnecessary financial drain’. This began to change only in the late 1950s and early 1960: as of that time, other colonial empires began falling apart, and a large number of possessions and protectorates in Africa gained independence from European powers. The decolonisation of Spanish overseas territories proceeded at a much slower pace: in north-western Africa, the 1960s were thus marked by a permanent confrontation between Madrid and Rabat. At the same time, nationalism emerged within the Spanish Sahara, with the native population demanding at least a representative government. When all attempts at negotiations with the government in Madrid failed, first Morocco and then the Sahrawis took up arms. In turn, the continuously rising tensions resulted in a Spanish military build-up in what was meanwhile officially an overseas province.

Moroccan Incursions

Although Spain abandoned most of its possessions in Morocco upon that country’s independence, and despite the defeat of the Liberation Army’s assault on the Ifni enclave, in 1958, tensions between Madrid and Rabat continued during the following years. Indeed, because the Spanish government refused to give up Ceuta, Melilla and Ifni, they gradually increased. When the warships of the Moroccan Navy began harassing the Spanish fishing boats not only off the Mediterranean coast, but also along the coast of the Spanish Sahara, the Spanish Navy – *Armada* – began escorting fishermen with HU-16 and Dornier Do.24 amphibians. The resulting see-saw naval incidents experienced a temporary stop only after Madrid decided to formally return Ifni to Morocco on 30 June 1969.

In the meantime, Spanish colonial authorities launched a major attempt to improve the economic situation in the Spanish Sahara. Correspondingly, in 1960 they granted the right to 17 foreign companies to explore suspected oil reserves. Instead of oil, the exploration found sources of high-grade phosphates in the Bou Craa region, southeast of el-Aaiún, and high-quality iron ore deposits near Agracha, in the north-east of the territory – opposite to Tindouf in Algeria. Quantities of titanium, vanadium, bauxite,

copper, zinc, manganese and uranium were reported, too.⁹²

Taking related Spanish explorations as an affront, Morocco struck at the Spanish Sahara by deploying so-called ‘irregulars.’ Following several raids and kidnappings of foreign oil workers, the Spanish military decided to bolster its presence. About 20,000 troops – including units of the Spanish Foreign Legion, paratroopers, artillery, and special forces (such like the paramilitary *Grupos nómadas*, staffed by Moroccans and Sahrawis) – were deployed along the borders. Furthermore, the EdA established a permanent presence by deploying its 36th Composite Wing at el-Aaiún airport. This unit included squadrons of T-6Ds, C.2111 bombers, CASA.352 transports, and exercised control over a few Cessna L-19s of the Spanish Army Aviation (*Fuerzas Aeromoviles del Ejército de Tierra*, FAMET). In 1965, the 36th Composite Wing was re-organized as the 46th Composite Wing, and in 1970 its units were once again reinforced – though this time for armed action against the emerging local insurgency.

Internal Unrest

As the Moroccan incursions continued, the affair eventually ended up in front of the general assembly of the United Nations (UN), where – following appeals from Sahrawi representatives – a resolution was passed calling for Spain’s withdrawal. However, Madrid refused to bow and attempted to counter both Moroccan irredentism and the growing Sahrawi nationalism by creating the Jama’a (or ‘Djemma’) – the General Assembly of the Sahara, which was supposed to represent Sahrawi interests. Notably, during the 1960s the diminutive population of Spanish Sahara experienced dramatic changes: there was a significant decline in nomadism and growth of urban areas, and increased economic development. The Spanish language became common among Sahrawi people and the Catholic faith was introduced: according to reports of the Catholic church, by 1975 up to 20,000 locals – or about 32% of the total population – were Roman Catholic. In Madrid, this resulted in a decision to retain the overseas province.

However, Jama’a included only tribal leaders who collaborated with Spanish authorities, and rapidly lost any semblance of



A relatively rare view of one of 46th Wing's T-6Ds, together with that unit's insignia. (EdA)

credibility among younger nationalists. Obviously, Spain's inability to comprehend and manage the evolving situation, and implement representative government, was directly linked to the country being ruled by a military dictatorship of General Francisco Franco Bahamonde. Unsurprisingly, when a small group of Sahrawi students who had been brought together by conservative Islamic views formed the Saharan Liberation Front and staged a political demonstration in el-Aaiún, on 17 June 1970, Spanish authorities reacted brutally. Several people were killed and at least one of the leading activists 'disappeared'.⁹³ This action is said to have inspired the dissidents to start recruiting and organizing the desert nomad populace and build up a guerrilla organisation. When the Spanish authorities reacted with the arrest of activists, they not only sparked the outbreak of an armed uprising, but also Moroccan threats of a military intervention in the Spanish Sahara. As the circle of violence turned, yet more Spanish troops were deployed on board of C-47 and C-54 transports to el-Aaiún.

POLISARIO

In 1971, the first cell of Sahrawi *armed* resistance to the Spanish colonial rule came into being in the form of the Popular Front for the Liberation of Saquia el-Hamra and Río de Oro (*Frente Popular para la Liberación de Saquia el-Hamra y Río de Oro*, FRELISARIO, but colloquially POLISARIO). What eventually developed into the 'political wing' of this organization had already been officially constituted on 10 May 1973 at Ain Bentili by a number of student activists, mostly from the Reguibat tribe. However, during the year, they were reinforced through the recruitment of several members of the Delim tribe that used to serve with the Spanish Army and the native police, and brought with them their firearms. While the Reguibat and the Delim were to carry the burden of the initial armed uprising, over the time *de-facto* all the Sahrawi tribes joined their uprising.

The activists of the POLISARIO promptly began searching for ways to obtain support from abroad, but initially achieved relatively little in this regard: only a few minor shipments of infantry firearms arrived from Libya. Correspondingly, early insurgents had to rely on their own, very limited stocks of arms and ammunition, and whatever

they captured from the Spaniards. For this reason, for the next three years, they usually operated in groups of less than 10-15: these travelled mounted on camels, and usually by night. Their primary means of operations consisted of mining the desert tracks used by the Spanish military and ambushing small convoys.

Last Messerschmitts in Combat

As the number of ambushes grew, and the situation continued to deteriorate, the Spaniards decided to increase their military presence again. In April 1970, the 408th Squadron, EdA was established at el-Aaiún: never integrated into the 46th Composite Wing, but always operating autonomously and closely cooperating with ground forces, this unit was equipped with Do.27s used for reconnaissance and liaison. Only two months later, in June 1970, the 462nd

Squadron of the 46th Composite wing relinquished its antiquated C.2111s for 24 Hispano Aviacion HA.200D Saeta training jets and light strikers.⁹⁴

The HA.200 was a project based on the fact that in 1951, famous Professor Willy Messerschmitt emigrated to Spain and began working for Hispano Aviacion. As designer of the most-produced fighter aircraft ever (the Messerschmitt Bf.109), and considered a 'Nazi follower' in Germany, Messerschmitt was strictly prohibited from working on any kind of project related to defence purposes after the Second World War. His movement was also limited. Once in Spain, everything changed: Hispano Aviacion provided him with a team of other German defence specialists and requested him to construct a basic trainer, an advanced jet-powered trainer, and a supersonic fighter. The results of this work were the HA.100 Triana training aircraft, the HA.200 Saeta twin-engined jet trainer, and the HA.23P supersonic design, respectively. Although the HA.100 performed favourably in comparative tests against the T-28 Trojan, no satisfactory engine was found, and this project was eventually cancelled. Similarly, the further development of the HA.23P was subsequently transferred to Egypt. However, the development of the HA.200 was continued in Spain. Powered by two Turbomeca Marboré engines mounted side-by-side in the forward fuselage, the first prototype made the first flight on 12 August 1955. Although further development proceeded relatively slowly, Hispano launched the series production and the first production aircraft flew in October 1962 as the HA.200A: this series entered service with the EdA's Flying School (*Escuela de Aviacion*), under the designation E.14. Further development of the HA.200 led to the emergence of two variants that could be equipped for combat: the HA.200D two-seater and the much more powerful HA.220 ground-attack aircraft, first flown on 25 April 1970. Only the first of the two was to see combat service in the Spanish Sahara, where it replaced remaining C.2111s.

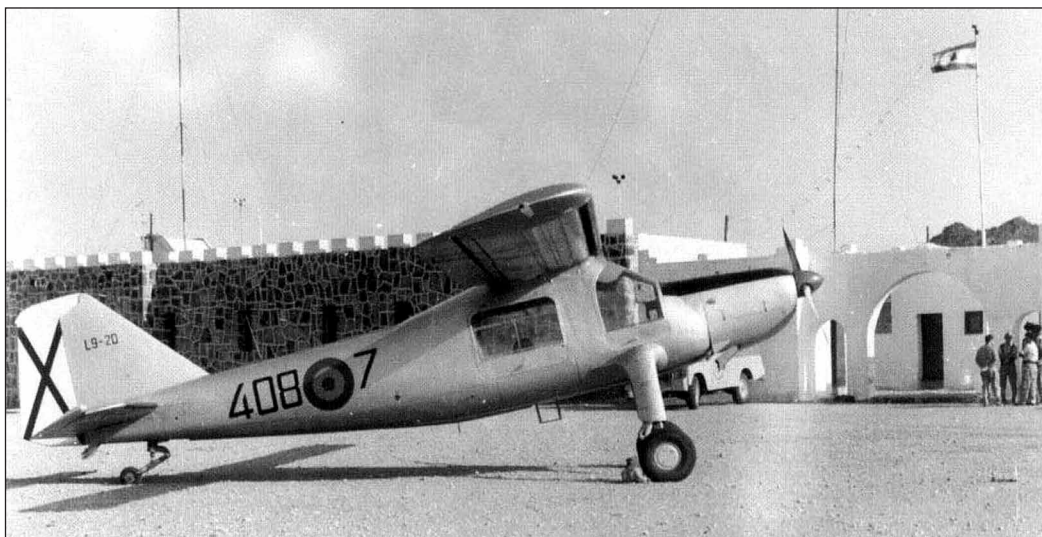
In the course of the further improvement of the units involved in the Spanish Sahara, in July 1972 the EdA had ordered the replacement of the few remaining CASA.352s of the 461st Squadron with C-47s. In the meantime, in April 1971, in the course of the Operation

Trinca, it deployed a squadron of F-86F Sabres and a detachment with several de Havilland Canada DHC-4 Caribous to Gando AB. From there, the Sabres were often forward-deployed to el-Aaiún, from where they patrolled the border with Morocco. However, the Moroccan acquisition of F-5As soon prompted the Spaniards to replace their old Sabres with supersonic Lockheed F-104G Starfighter interceptors. The EdA obtained 21 Starfighters (including 18 F-104G single-seaters and 3 RF-104G two-seaters) through the military assistance programme, starting in 1965. These were operated by the 104th Squadron for only six years, before being returned to the USAF in 1972. The type was then replaced by the next high-speed jet to enter service: the Northrop F-5 Freedom Fighter. Northrop's stake in the CASA led to an agreement for licence production of this type in Spain in 1966: this included 19 F-5As, 34 F-5Bs, and 17 RF-5As (locally designated the SF-5A/C.9, SF-5B/CE.9 and – at least initially – SRF-5A/CR.9, respectively). Upon entering service with 202nd, 204th, 211th and 212th Squadrons, Spanish Freedom Fighters conducted regular deployments to Gando AB on the Canary Islands, and at el-Aaúine airport, between 1971 and 1975.⁹⁵

The type that actually saw most action against the POLISARIO early during the insurgency remained the little Do.27s: operating from dozens of primitive airstrips, they saw ever more intensive involvement. In addition to being used to search for caravans carrying supplies for insurgents, and to escort vehicle convoys, they also hauled supplies to outposts and evacuated casualties. The Do.27 proved a remarkably sturdy, easy to maintain and operate type, but still suffered from the elements. For example, the summer greatly decreased its short take-off and landing performances, requiring take-off and landing runs of 200 or more metres, instead of the usual 50–60 metres. Very often, the heat reached such levels that, immediately after landing, crews had to cover the wings with blankets soaked in water to cool down the internal fuel tanks.⁹⁶



A HA.200 Saeta two seat jet trainer and light striker of the 462nd Squadron, as seen parked in front of the control tower of Villa Cisneros airport, in the early 1970s. (Albert Grandolini Collection)



The Dornier Do.27 was the most intensively used aircraft in the EdA's fleet deployed in the Spanish Sahara of the early 1970s. Its excellent short-take-off and landing capabilities were particularly appreciated, although related performances suffered considerably due to the summer heat. (EdA)



A row of five F-104G Starfighters, as seen during one of many temporary deployments to Gando AB, in late 1971. (Photo by Juan Tutusaus)



After Sabres and Starfighters, the EdA also began rotating its brand new F-5A Freedom Fighters to Gando and el-Aaiún. This photograph shows two examples from the 211th Squadron and was taken at the latter airfield in 1974. (Albert Grandolini Collection)

What starts Small can soon grow Large

Another type that saw intensive service with the EdA in the Western Sahara of the early 1970s was the HU-16A amphibian, operated by the 802nd Squadron. Occasionally reinforced by HU-16Bs from the 221st Squadron, these always accompanied detachments of T-6Ds during their transits from Gando to diverse forward airfields in the Spanish Sahara, but also patrolled along the long coast of the territory, searched for ships smuggling arms, and tracked the activities of the Moroccan Navy.

The T-6D eventually turned into the workhorse of the EdA in the Spanish Sahara. Initially, only an 'intervention force' – consisting of four flights with four aircraft and six pilots each (out of about 30 T-6Ds assigned to the 46th Composite Wing's 463rd Squadron at Gando AB) – was available: one of the flights was always on alert, and rushed to el-Aaiúne as and when necessary. To increase the range of their T-6s, the Spaniards usually removed the rear seat and replaced it with an additional fuel tank, in turn increasing the endurance by an hour. However, this installation made the aircraft unstable and particularly sensitive to turbulence caused by hot air at low altitudes. One of the aircraft was lost for these very reasons in a crash that occurred on 12 July 1971 outside Tifariti.

Armament-wise, Spanish T-6Ds usually operated in the so-called C-weapons configuration: this consisted of 12 Sura 80mm rockets, in addition to the two wing-mounted Breda 7.7mm machine guns. Contrary to earlier times, when C.2111s could be armed only with 50kg bombs, by the early 1970s the EdA went to some lengths to

improve the armament of its aircraft. Thus, and alternatively, T-6Ds could be armed with up to 36 SNEB unguided 37mm rockets or two 50kg bombs. Cluster bomb units (CBUs) filled with 10kg anti-personnel bomblets, or 81mm mortar rounds were available too.

As well as the EdA, the FAMET also increased its presence in the Spanish Sahara. On 9 December 1971, the *Armada's* sole aircraft carrier *Dedalo* delivered 12 of the Army's Bell UH-1H Huey helicopters to el-Aaiúne. This detachment was subsequently reinforced through three additional UH-1Hs, three Bell OH-58s, and three Aerospatiale SE.316 Alouette IIIs. Since the insurgents proved ready to open fire at helicopters, the Spaniards began equipping them with armament: when deployed for transport purposes, this consisted of two German-made MG-3s (7.62mm light machine guns) installed on side doors; when used as a 'gunship', the helicopter would carry a single M2 12.7mm/0.50" calibre heavy machine gun calibre in the left door only. The OH-58s were used as scouts and FACs, but were also armed with the six-barrel M134 7.62mm mini-gun. Three of the Alouettes were armed too: two with four AS.11 anti-tank guided missiles each, while one carried a 20mm cannon in the rear cabin, the barrel of which pointed outside the left door.

COIN – Spanish Style

The primary method of Spanish counter-insurgency operations early on were motorized patrols of the Foreign Legion, often proceeded by camel patrols of the Nomadic Troops (*Tropas Nomadas*, a Sahrawi-staffed auxiliary force), and nearly always supported by T-6Ds and helicopters. Their first bigger operation was run between 26 and 28 May 1972, in the Smara and Edcheria areas, when eight UH-1Hs were deployed to enable a series of heliborne assaults. A similar operation was carried out in early August 1972 in the Hagunia area. Each time, the insurgents were tracked down until cornered between the motorized column and troops deployed by helicopters, then strafed and rocketed by aircraft, and finally overwhelmed by ground troops.

After this experience, the



One of HU-16As from the 801st Squadron, as seen in front of two CASA.352s, probably at el-Aaiún, in the early 1970s. The aircraft was left in overall silver-grey, as on delivery, but received Spanish national colours down the entire ruder, a wide yellow band around the rear fuselage and the big title 'SAR' – probably in dayglo orange – below the cockpit. (Albert Grandolini Collection)

POLISARIO adapted its tactics: it began operating in the form of smaller units mounted on newly-acquired – but soon omnipresent – Land Rover Santanas that entered the Spanish Sahara only for quick hit-and-run attacks. Their speed became essential: immediately after every attack, the insurgents would quickly withdraw over the border into the nearest neighbouring country: whenever the Spaniards failed to react within few hours, or less – they escaped unscathed. In a daring raid launched during the night from 20 to 21 May 1973, the POLISARIO assaulted and overran a post manned by a team of *Tropas Nomadas* in el-Khangand, and seized numerous rifles, and their ammunition, before disappearing in the darkness. Further raids were then carried out against outposts in Khangat Lansar, Tifariti, Ued Arraid, and Bir Lahlou: each time, the insurgents captured the position but held it only for an hour, before retreating to their bases inside Algeria or Morocco.

Furthermore, in late 1973, the Sahrawis ‘opened a new front’ – by attacking outposts in the eastern part of the Spanish Sahara, and ambushing multiple convoys underway on the road connecting Smara with Mahbes. The Spaniards reacted by launching a major sweep – Operation *Barrido* – against the POLISARIO’s forward bases in the Edcheria area. While reasonably successful and causing heavy casualties to the Sahrawis, this brought only a short respite. Once again, the POLISARIO reacted with a series of raids on outposts like those of Hassi Maitallah, Maraich, Tifariti, and Jdairia. Many others were soon considered as isolated by the insurgents, in that they could only be maintained with the help of helicopters and C-47s. Correspondingly, already in late 1973, the EdA reinforced its transport assets through regular detachments of C-54s and CASA C.207s of the 35th Wing to Gando, from where these hauled supplies for el-Aaiún and Smara. Furthermore, starting in April 1974, the then brand-new C-130H Hercules transports of the 301st Squadron were regularly mobilized for operations in the Spanish Sahara.

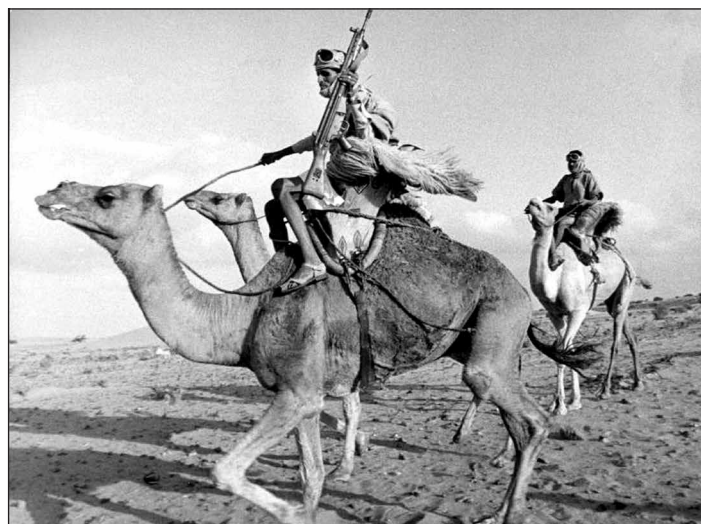
In an attempt to bolster the available firepower, in the spring 1974 the EdA deployed all of the T-6Ds of the 463rd Squadron to el-Aaiún. Indeed, from that period onwards, this unit began operating regular detachments at Smara, Hausa Edchevea, Guera, Vand, Villa Cisneros – and, sometimes, from diverse desert strips. In similar fashion, all the 24 HA.200Ds of the 462nd Squadron were forward deployed to the Spanish Sahara in January 1975, and its aircraft distributed between el-Aaiún and Smara. It was during this period that a three-tone camouflage pattern was introduced on both types.



A T-6D of the 463rd Squadron, showing most of its armament, which included 50kg bombs, 37mm SNEB rockets and Sura 80mm rockets, 81mm mortar bombs, and 10kg anti-personnel bomblets. (EdA)



Two of the Alouette III helicopters of the FAMET deployed in the Spanish Sahara as of late 1971 were armed with AS.11 anti-tank guided missiles as shown here. (Salvador Mafe Huertas Collection)



The *Tropas Nomadas* proved valuable services to the Spanish colonial authorities. However, its defectors also brought plenty of combat experience to the POLISARIO. These three defectors from the *Tropas Nomadas* were photographed while arriving in one of the forward insurgent bases. (Albert Grandolini)

All of this proved far from being enough: the POLISARIO continued raiding almost at will, causing casualties and capturing

Aircraft Designation-System of the Spanish Air Force

All Spanish military aircraft are identified by designations, based on their purpose, and consisting of a single letter prefix. The second part of the designation consists of a number allocated in the chronological order of their service entry. A suffix is added to indicate variants. The system and its examples are described in Table 5.

Table 5: Spanish Military Aircraft Designations		
Prefix	Purpose	Examples
A	Amphibious	AD.1 (SA-16A)
B	Bomber	B.21D (Merlin-powered He-111H-16)
C	Fighter	C.4K (Merlin-powered Bf.109G), C.5 (F-86F), C.9 (F-5A)
D	Rescue	
E	Trainer	E.6 (AISA I-115 trainer), E.15 (T-33A), E.16 (T-6D)
L	Liaison	L.6 (Fi.156 Storch), L.8C (AISA I-11B trainer/liaison aircraft)
R	Reconnaissance	CR.9 (RF-5A)
T	Transport	T.2B (C.352L), T.3 (C-47), T.5 (CASA C.201 Alcotan)
Z	Helicopter	Z-1 (H-19)



Troops of the *Tropas Nomadas* moving out from the el-Aaiún AB in early 1975. Together with the Spanish Foreign Legion, this auxiliary service staffed by the Sahrawis bore the brunt of operations against the POLISARIO. (Albert Grandolini Collection)

ever more arms, supplies and equipment. The Spaniards reacted with an increasing number of small heliborne assaults, always supported by T-6s, guided by the airborne FAC. For all practical purposes, they were now involved in an attempt to run a highly dynamic COIN campaign. Indeed, even when the Spanish FAC pilots flew themselves to the verge of exhaustion – often clocking more than 100 hours a month – their effort proved to be in vain. Unsurprisingly, on 21 February 1974, two Do.27s collided while on approach to the Daora outposts, killing one of the pilots, Captain Caballero.

Further Incidents with the Moroccans

In the meantime, the Moroccans continued exercising pressure upon the Spaniards, too. On 24 July 1973, warships of the Moroccan Navy harassed several Spanish trawlers off the coast of the Spanish Sahara, and the crew of one of these called for help. A single HU-16A then appeared on the scene, and made a low-level pass over one of the Moroccan patrol boats as this aggressively chased the fishery vessel. When all radio warnings failed to stop the Moroccans, the

pilot of the Albatross, Major Jose Garcia Barroso, fired two 70mm rockets in front of the warship, finally forcing it to alter its course and withdraw.

Rabat bitterly protested – and waited for its opportunity to extract revenge. This came on 14 October 1974, when two HA.200Ds underway in transit from Spain to Canary Island were forced to divert for Kenitra AB in Morocco. The lead aircraft suffered from problems with fuel transfer from its tanks and its pilot, Captain Jesús Gil Fernandez, was struggling to keep its engines running while underway over the Atlantic Ocean. Escorted by his wingman, Lieutenant Jose Angel Hevia Anubla, who remained nearby to help with navigation, Fernandez thus diverted for Morocco when it became obvious that they could not reach their destination. Ultimately, he lost the fight: Fernandez's aircraft ran out of fuel and crashed just before reaching the coastline, at the estuary of the Sebou River, killing its pilot. By this time, Anubla was left without a choice: he pressed on for Kenitra AB: he overshot on landing, badly damaging his aircraft in the process, and was interned by the Moroccans.

The First External

On 26 January 1974, the POLISARIO ambushed a patrol of the Territorial Police in the Lemgasen area. As usual, the insurgents disappeared into the night. However, this time the Spaniards reacted quickly and with a decisive search-and-destroy operation. Helicopters deployed a number of Foreign Legion teams down the expected escape routes: finally the retreating column was tracked down by Do.27s and T-6Ds – shortly before it crossed into Mauritania. Undaunted, the Spaniards quickly re-deployed their troops 25 kilometres inside the territory of their southern neighbour to catch-up with the insurgents, then encircled and virtually destroyed them. This was the first ‘external’ operation launched by the Spanish military in decades.



CASA C.207 Azor was a little known, twin-engine transport aircraft, only 20 of which were manufactured from 1958 until 1968, powered by British-made Bristol Hercules engines. Operated as T.7A in service with the EdA, it saw quite intensive deployment in support of the Spanish troops in western Africa of the early 1970s. (EdA)



In spring 1974, all of EdA's T-6Ds of the 463rd Squadron were deployed to el-Aaiún and were camouflaged in yellow, dark earth and black-green: this was applied in the same pattern on all of the Texans, and – in 1975 – on all of the HA.200s. (Albert Grandolini Collection)



One of the C-54s from the 35th Wing, EdA seen on landing at el-Aaiún airport. The type provided valuable transport services and remained in use even when the cargo-hauling capability of the Spanish air force was significantly bolstered through the introduction to service of the much more powerful C-130H Hercules. (Albert Grandolini Collection)

Hard on the heels of this success, the Spaniards ran Operation *Janquel-Qhesar* in the Tifariti area, in February 1974, followed by another – including the 7th Battalion of their Foreign Legion – in the Smara area. In the latter case, they managed to cut off the escape route of a POLISARIO team, killing about a dozen and capturing five insurgents.

On 14 February 1974, one of four T-6Ds patrolling the Mauritanian border at a very low altitude flew too low and



The sole ‘gunship’ UH-1H of the FAMET carried a Browning M2 .50” cal heavy machine-gun in the left cabin door. (Albert Grandolini)

crashed, killing its pilot, Lieutenant Jaime Michelena Barcena.⁹⁷ Nevertheless, other T-6s and several Do.27s then detected the tracks of an infiltration in the sector of Edcheria, triggering another sweep operation, carried out jointly by the Spanish Army and the Territorial Police. Supported by standing patrols of T-6s and HA.200Ds, and three UH-1Hs of the FAMET, the ground units successfully tracked down the insurgents, and destroyed them.

On 13 April, eight members of the POLISARIO ambushed a Territorial Police patrol in Rio Aunaria, and killed two. Despite



A UH-1H of the FAMET, carrying a 105mm howitzer on a sling into a COIN operation against the POLISARIO in late 1974. (Albert Grandolini Collection)



A line of insurgent riflemen sneaking upon their next target. The majority of POLISARIO's operations against the Spaniards saw high-speed hit-and-run attacks. (Albert Grandolini Collection)

prompt reaction from the sole UH-1H gunship of the FAMET, the insurgents managed to escape in the darkness of the night. Having realized that the lack of equipment for nocturnal operations was becoming an issue of critical importance, Spanish officers then opened the search to remedy the situation. Following extensive testing, a new concept of nocturnal air strikes was devised: accordingly, a Do.27 or one of the Hueys would illuminate the target zone by dropping a Mk. 24 Mod. 4 Bengala flare, after which fighter-bombers would dive-bomb under the direction of the airborne FAC. The altitude and speed of the fighter-bomber depended on the available type. Several such operations finally forced the POLISARIO to slow down its raids. By the time

a new round of insurgent raids was launched, in December 1974, some of FAMET's UH-1Hs began carrying OTO Melara 105mm light howitzers on a sling, and their crews in the cabin: once on the ground, the artillerists would quickly pour heavy fire into suspected enemy positions under the guidance of an airborne FAC.

Success and Failure

Ultimately, regardless of their effectiveness, even such measures proved futile, because the insurgents were meanwhile better armed than ever before, and operated in ever more-efficient fashion. This was particularly valid for a major clash that took place on 18 December 1974, after a motorized patrol of the Territorial Police was ambushed inside a canyon in the Tifariti area and pinned down. The FAMET reacted by deploying six UH-1Hs – including two armed as gunships, two as transports and one for medical evacuation (MEDEVAC) – that carried a section of the Foreign Legion from Smara. When the combat zone proved too fiercely protected the



An aerial view of the apron at el-Aaiún airport from early 1975, showing it full with aircraft, including three C-130Hs, one C-54, three C.207s, at least six T-6Ds, five HA.200s, and two Do.27s. (Albert Grandolini Collection)

helicopters had to deploy the Legionnaires outside of it. The EdA meanwhile dispatched several T-6Ds armed with gun pods and unguided rockets, but these failed to suppress the Sahrawis that made skilful use of local caves to hide. Finally, two Saetas arrived, armed with pods for 70mm unguided rockets. Firing these from a dive at 45 degrees, they proved their worth as stable gunnery platforms: most of the insurgent positions received direct hits. Nevertheless, when ground troops attempted to assault, they were beaten back again. Indeed, when the UH-1H equipped for MEDEVAC then attempted to pick up six wounded police officers, it came under such intense ground fire that this attempt had to be abandoned; the two Hueys configured as gunships were forced to pour in heavy volumes of suppressive fire in order to enable it to distance.

Early on the next morning, two Saetas arrived first to soften enemy resistance before T-6Ds and UH-1s could start their work. Repeating attack patterns from the previous day, and this time attacking with the help of a forward air controller, they scored multiple hits at the entrances to various caves: one of the rockets apparently hit a local ammunition dump, because its detonation was followed by multiple secondary explosions. With the insurgents being finally quietened, one of the UH-1s managed to evacuate one dead and two injured Legionnaires, while others evacuated other casualties. The remaining troops then encountered hardly any resistance while assaulting the caves: most of the enemy had been killed by rockets fired by the Saetas.

However, and overall, despite increasingly aggressive COIN operations by the Spaniards, the POLISARIO managed to raise the number of its hit-and-run attacks: through 1974 and 1975, it launched around 30 major raids. The heaviest of these had hit the Spanish bases in Has Janger Quesada, Hasi Amsid and Uad Chehbi, in the north-eastern sector, and Aun Ben Till (or Budher) near the Mauritanian border. With a handful of exceptions, most of the insurgents involved came away without a scratch. Foremost, the insurgents were meanwhile able to establish numerous forward bases in the northern Spanish Sahara, thus not only making their operations easier to organize, but also de-facto bringing ever larger parts of the territory under their control.

By 1975, the writing was, thus, on the wall for Madrid's control over the Spanish Sahara. However, the fate of this territory was not to be decided on the battlefield: it was on the international diplomatic scene and then in complete disregard for wishes of the local population that the subsequent future of this territory came into being. This part of the story is to follow in the second volume.

Bibliography

Many of the materials presented in this book were obtained in the course of research for the book series *Arab MiGs*, which reconstructs the history of Arab air forces at war with Israel in the period 1955-1973. Additional information was acquired during interviews with participants and eyewitnesses mentioned in the acknowledgments and elsewhere, primarily in Algeria and Morocco, but also in France and the USA. Sadly, concerns for their and the security of their families have prevented most of them from speaking openly, while the availability of original documentation remains extremely limited. Nevertheless, the contributions of all first-hand sources that provided their recollections proved precious and enabled the authors to cross-examine the following publications (as well as those mentioned in footnotes) that were consulted in preparation of this book:

- Alaoui, H., *Guerre secrète au Sahara occidental* (Paris: Encre d'Orient).
- Alvarez, J. E., Bowen, W. H., *A Military History of Modern Spain: From the Napoleonic Era to the International War on Terror* (Praeger Security International, 2007; ISBN 978-0-27599-3573).
- Barbier, M., *Le conflit du Sahara occidental* (Paris: L'Harmattan, 1982; ISBN 978-2-29627-877-6)
- Aguirre, J. R. D., *El Oscuro Pasado del Desierto: Aproximación a la Historia del Sáhara* (Madrid: Casa de África; ISBN 84-95498-64-2)
- Bárbulo, T., *La historia prohibida del Sáhara Espanol* (Barcelona: Desino, 2002)
- Brent, W., *African Air Forces* (Freeworld Publications, 1999)
- Casas De La Vega, R., *La ultima guerra de Africa, campana de Ifini-Sahara* (Madrid : Ministerio de Defensa, 2008)
- Catala, M., *La France, l'Espagne et l'indépendance du Maroc 1951-1958*, (Paris: Rivage des Xantons, ISBN 978-2-84654-366-8)
- Crosnier, A., *l'armée de l'Air en Afrique du Nord, Maroc-Algérie-Tunisie, 1940-1967, Tome 1* (Paris: Histoire & Collections, 2015, ISBN 978-2-35250-420-7)
- Crosnier, A., *l'armée de l'Air en Afrique du Nord, Maroc-Algérie-Tunisie, 1940-1967, Tome 2* (Paris: Histoire & Collections, 2015, ISBN 978-2-35250-421-4)
- Collective, *Ala 46, 50 anos de historia, 1965-2015* (Madrid: Ministerio de Defensa, 2015)
- Collectif, *Chronique du Charles de Gaulle; L'apogée d'un siècle d'aéronautique navale* (Chroniques Them, ISBN 978-2205053234)
- Collectif, *Le Jaguar dans ses Missions de Guerre Electronique* (Paris: Lavauzelle/Association Guerrelec, 2007)
- Cooper, T., Weinert, P., Hinz, F. & Lepko, M., *African MiGs, MiGs and Sukhoi in Service in Sub-Saharan Africa, Volume 1: Angola to Ivory Coast* (Houston: Harpia Publishing, 2010, ISBN 978-0-9825539-5-4)
- Cooper, T. & Nicolle, D., *Arab MiGs, Volume 1: Mikoyan i Gurevich MiG-15 and MiG-17 in Service with Air Forces of Algeria, Egypt, Iraq, Morocco and Syria* (Houston: Harpia Publishing, 2009, ISBN 978-0-9825539-2-3)
- Cooper, T., Nicolle, D., with Nordeen, L., Salti, P., and Smisek, M., *Arab MiGs, Volume 4: Attrition War, 1967-1973* (Houston: Harpia Publishing, 2013, ISBN 978-0-9854554-1-5)
- Cruz, G. A., 'Homegrown Pedros: Spanish-Built Heinkel He 111s, Part 1', *Air Enthusiast* No. 90 (November/December 2000)
- Cruz, G. A., 'Homegrown Pedros: Spanish-Built Heinkel He 111s, Part 2', *Air Enthusiast* No. 91 (January/February 2001)
- Daguzan, Jean François, *Le dernier rempart? Forces armées et politiques de défense au Maghreb* (Paris: Edition Publisud, 1998, ISBN 2-86600-819-7)
- Dean, D. J., *The Air Force Role in Low-Intensity Conflict* (Maxwell AFB: Air University Press, October 1986, ISBN 1-58566-014-0)
- Flintham, V., *Air Wars and Aircraft: a Detailed Record of Air Combat 1945 to the Present* (London: Arms and Armour Press, 1989, ISBN 0-85368-779-X)
- Fricker, J., 'Lockheed F-104 Starfighter', *Wings of Fame; The Journal of Classic Combat Aircraft, Volume 2* (Aerospace Publishing, 1996)
- Fuente Cobo, I., Marino Menendez, F., *El Conflicto Del Sahara Occidental* (Madrid: Ministerio de Defensa, 2005)
- Green, W. & Fricker, J., *The Air Forces of the World: Their History, Development, and Present Strength* (London: MacDonald, 1958)
- Gomá Orduna, J., *Historia de la aeronáutica Espanola* (Madrid: Prensa Espanola, 1950)
- Hagedorn, D. & Hellström, L., *Foreign Invaders: The Douglas Invader in Foreign Military and US Clandestine Service* (Leicester: Midland Publishing Ltd., 1994; ISBN 1-85780-013-3)
- Hodges, T., *Origine et enjeux d'une guerre du désert* (Paris: L'harmattan, 1982, ISBN 2-85802-7641)
- Hughes, S. O., *Morocco Under King Hassan* (Ithaca Press, 1999, ISBN 978-0863723124)
- Johnsen, F. A., *Northrop F-5/F-20/T-38* (North Branch: Speciality Press Publishers and Wholesalers, 2006, ISBN 978-1-58007-094-2)
- Kissling, H. J., Spuler, B., Barbour, N., Trimmingham, J. S., Bagley, F. R. C., Braun, H., Hartel, H., *The Last Great Muslim Empires, Part II* (Leiden: Netherlands, 1969)
- Liébert, M. & Buyck, S., *Le Mirage F1 et les Mirage de seconde generation à voilure en fleche, Vol.2: Les Mirage F1 desérie, Un avion aux multiples facettes* (Outreau: Éditions Lela Presse, ISBN 2-914017-41-3)
- Lorell, Mark A., *Airpower in Peripheral Conflict: The French Experience in Africa* (Santa Monica: RAND, 1989, ISBN 0-8330-0937-0)
- Louit, Michel-Ivan, *Ecouvillon? Discrète opération de maintien de l'ordre franco-espagnole, Sahara occidental 1957-1958* (Paris : Marsouins et Méharistes, 2009)
- Lovelace, Douglas C., *War and Insurgency in the Western Sahara* (Carlisle Barracks: US Army War College Press, 2013, ISBN 1-58487-569)
- Manchon, Jean-Baptiste, *L'aéronautique militaire française outre-mer, 1911-1939* (Paris : Presse Universitaire Paris-Sorbonne, 2013, ISBN 978-2-84050-867-0)
- Miske, A., *Front Polisario, l'âme d'un peuple* (Paris : Rupture, 1978)
- Mokhtar, G., *General History of Africa II: Ancient Civilizations of Africa* (London: Heinemann Educational Books Ltd., 1981; ISBN 0-435-94805-9)

- Nicolle, D., Cooper, T., & Air Vice Marshal Gabr Ali Gabr, *Wings over Sinai: The Egyptian Air Force During the Sinai War, 1956* (Solihull: Helion & Co., 2017; ISBN 978-1-911096-61-0)
- Pivka, Otto v., *Armies of the Middle East* (Leicester: Book Club Associates/Patrick Stephens Ltd., 1979)
- Ougartchinska, R., & Priore, R., *Pour la Peau de Kadhafi: Guerres, Secrets, et Mensonges, 1969-2011* (Paris: Fayard, 2013)
- Sales Lluch, J. M., *Alas sobre el desierto: La aviación militar española durante el conflicto del Sahara, 1975* (Galland Books, 2013 ; ISBN 978-8415043560)
- Scutts, J., *Northrop F-5/F-20* (Runnymede: Ian Allan Ltd., 1986; ISBN 0-7110-1576-7)
- Stafrace, C., *Arab Air Forces* (Carolton: Squadron/Signal Publications Inc., 1994, ISBN 0-89747-326-4)
- Francois Pernot & Marie-Catherine Villatoux, 'l'Aéronautique Militaire au Maroc avant 1914', *Revue Historique des Armées Troupes coloniales, Troupes de marine* No.1/2000
- Thomas, M., *The French Empire between the Wars: Imperialism, Politics and Society* (Manchester: Manchester University Press, 2005; ISBN 0-7190-6518-6)
- Willis, D. (editor), *Aerospace Encyclopaedia of World Air Forces* (London: Aerospace Publishing Ltd., 1999, ISBN 1-86184-045-4)
- Woolman, D. S., *Rebels in the Rif: Abd El Krim and the Rif Rebellion* (Stanford University Press, 1968; ISBN 978-0804706643)
- World Defence Almanac, *Military Technology* magazine volumes 1/91, 1/93, 1/95, 1/97, 1/98 & 1/03
- Yara, Ali Omar, *L'insurrection Sahraouie, de la guerre à l'état 1973-2003* (Paris: l'Harmattan, 2017, ISBN 2-7475-4656-X)
- Zunes, S., & Munday, J., *Western Sahara: War, Nationalism and Conflict Irresolution* (Syracuse: Syracuse University Press, 2010, ISBN 978-0-8156-3219-1)
- Various volumes of *el-Djeich* Magazine (the official publication of the Algerian Ministry of Defence), *Air Fan*, *le Fana de l'Aviation*, *Aviation Magazine Internationale*, *Air et Cosmos*, *Icare*, *Revue Historique des Armées* and *Raids* (France), *Revista de Aeronautica y Astronautica*, *Aeroplano*, *Revista de Historia Aeronautica* (Spain), and personal notes of both authors based on other various daily and weekly printed publications.

Notes

- While theoretically considered equivalent to an NCO-rank in USA or Great Britain, the French rank of Aspirant and Major is actually in between officer and NCO ranks, and considered the lowest officer rank, though also the highest NCO rank.
- Mokhtar, p.515.
- Tangier was occupied by the Portuguese in 1471, which gave it to the English in 1662. Its port was demolished during the English evacuation of 1679, and it subsequently declined in importance thus losing a potential to outmatch Gibraltar. For the next 200 years, the town lived from piracy before developing into a centre of European diplomatic and commercial activity in the 19th Century. While administered as an international zone by France, Spain, Britain and the Netherlands for most of the early 20th Century, and several years after the Second World War, it was returned to Moroccan control in 1956.
- Ceuta was conquered by the Portuguese in 1415, but sided with Spain during the Portuguese Restoration War of 1640.
- CIA, *Viability and Orientation of a Western Saharan State*, PA81-10069, March 1981, CIA FOIA Electronic Reading Room (henceforth 'CIA/FOIA/ERR').
- Unless stated otherwise, this sub-chapter is based on Aguirre, *El Oscuro Pasado del Desierto* (details in Bibliography).
- Green et al, p.95.
- Pernot et al, 'l'Aéronautique Militaire au Maroc avant 1914'. Notable is that the Moroccan-detachment of the *Aviation Militaire* was thus the first 'squadron-sized' unit of this and thus any other air forces of the World – which is a particularly interesting detail considering that this branch was also the first to ever officially establish an '*escadrille*' (squadron). Consisting of six aircraft with six pilots, six mechanics, and 30 other personnel, the unit in question was established in October 1912.
- The Section of Eastern Morocco is known to have consisted of five pilots equipped with two-seater Deperdussin Type Ts, and based at Oudjda starting with November 1912.
- Green et al, p.260
- Prácticas de la aviación militar en Carabanchel, *La Ilustración Española y Americana*, 15 April 1911.
- Kindelán Duany, A., 'Así nació el arma aérea', *Revista de Aeronáutica*, November 1943 & *Flight*, 29 November 1913.
- Ibid.
- Aeropinakes.com (collection of contemporary press articles related to Spanish military aviation at war in Morocco, in the period 1913-1927).
- Woolman, p.96. Later on, Abd al-Krim ransomed the captured Spaniards to subsidize his war effort: in January 1923, he secured the then enormous sum of over four million pesetas from Madrid in exchange for the release of all the Spanish prisoners.
- Orduna, p.211.
- Woolman, pp.95-102.
- Thomas, p.212.
- Krugler, Gilles, 'La puissance aérienne dans la guerre du Rif', *Revue historique des armées*, Volume 268/2012; Rockwell, Paul Ayres, ed. Walker, Dale L, 'Moroccan Bomber: American Fighters in the Rif War, 1925', *Aviation Quarterly*, Volume 5, Number 2, 2nd Quarter 1979.
- Green et al, pp.98 & 260; Lázaro Avila, C., 'The first night action of Spanish Military Aviation', *Airplane*, Volume 15/1997.
- Rockwell, Paul Ayres, ed. Walker, Dale L, 'Moroccan Bomber: American Fighters in the Rif War, 1925', *Aviation Quarterly*, Volume 5, Number 2, 2nd Quarter 1979.
- Amongst places confirmed as bombed with mustard gas was Souk el-Had Beni Bu-Yahi, where a busy market was gassed by F.2Bs on 19 April 1925. Weapons known to have been deployed included C-1 (50 kilograms of mustard gas), C-2 (10 kilogram), C-3 (26 kilograms of phosgene), C-4 (10 kilograms of chloropicrin), and C-5 (20 kilograms of mustard gas).
- Rockwell, Paul Ayres, ed. Walker, Dale L, 'Moroccan Bomber: American Fighters in the Rif War, 1925', *Aviation Quarterly*, Volume 5, Number 2, 2nd Quarter 1979. Amongst others, the commander and several other pilots of the squadron received quantities of mail and telegrams with abusive content, some of these threatening to take away their US citizenship if they do not leave the service. One message stated that they would face imprisonment and a fine for having enlisted in a foreign military force, while another advised them to better never return to the United States, to which they were a disgrace.
- Ibid, p.98 & 260; Thomas, p.212 & Woolman, p.86. Abd al-Krim was exiled on the island of Réunion, but continued his political activity. Although invited back to Morocco in 1957, he refused as long as French forces were still in the country, and died – without ever seeing his homeland again – in 1963.
- Amongst others, it became known that the Spanish authorities in Ceuta and other ports had turned a blind eye to weapons smuggling on behalf of Algerian Nationalists.
- Zunes et al, p.10.

27. Maintaining the irony of many affairs from this war, the Algerians subsequently decided to celebrate 5 July as their 'independence day' because it was on 5 July 1830 that the French had captured Algiers.
28. Green et al, p.262.
29. Cruz, Gonzalo Avila, 'Homegrown Pedros' Part 1 (details in Bibliography), pp.49-50
30. Green et al, p.264.
31. Cruz, Gonzalo Avila, 'Homegrown Pedros' Part 1, pp.50 & 53. Final production numbers for Jumo-powered 2111s remain difficult to ascertain because many were originally manufactured as one variant, and then re-engined or re-modelled into another. Official total is 130 (in three different sub-variants).
32. Green et al, p.264.
33. Ironically, the Bf.109 was thus to remain in service for years longer, although powered by the engine that once used to power its nemesis: the Supermarine Spitfire. Similarly, the last Spanish-made Heinkels were retired only in the late 1960s.
34. Green et al, p.264. Notably, Grumman's Albatross amphibian originally received the official designation SA-16A. In 1962, this was changed to HU-16A – by which it is cited in this book. Many of the 170 SA-16A/HU-16As manufactured by Grumman were actually delivered to the SA-16B standard, including a wing with greater span, while most of the 15 aircraft operated by Spain over this time (including 5 delivered in 1954 and 7 delivered in the early 1960s) came from the surplus stocks of the US Coast Guard, which operated them under the designation UF-2G. Between one and three additional examples were subsequently acquired from Portugal.
35. Wilson, Glenn, 'Saharan Sunset', *Model Aircraft Monthly*, January 2008.
36. Ibid & 'Ifni y el Sahara', *Batallas aéreas* (aerobatallas.blogspot.co.at), 28 March 2014.
37. The two units previously flew either unsuitable Junkers Ju-52/3ms or aged Bell P-63 Kingcobras for attack purposes.
38. Hagedorn et al, pp.37-38.
39. Green et al, pp.103-105.
40. Ibid, p.105.
41. Sales Lluch, *Alas sobre el desierto*
42. Little known outside Spain, AISA (Aeronáutica Industrial S.A.) I-115 was a primary trainer designed by Iberavia and built by with tandem seating that first flew in 1951. About 200 were delivered to the Spanish air force starting in spring of 1956, with another order for 150 following shortly after. It remained in service until 1976.
43. Hagedorn et al, p.39
44. According to Sales Lluch in *Alas sobre el desierto* the owner of the camel subsequently demanded – and received – compensation for the animal killed in this attack.
45. Dupuy, p.234 & Central Intelligence Agency (CIA), *Morocco, March 1973, National Intelligence Survey*, CIA/FOIA/ERR.
46. Ibid & Bouziane, Colonel Abdesalam, 'Officier du Roi', *www.colonelbouziane.com*. Bouziane observed that the 20 pilots originally trained in Spain were foremost from northern Morocco, and became colloquially known as 'Spaniards'. While serving with the air force they experienced significant discrimination and were often passed over for promotion. Unsurprisingly, at least two became involved in the famous coup attempt of 1971.
47. Green et al, p.198; notable is that the Southern Air Material Area, Europe was responsible for the logistic support of all USAF units deployed through the Southern Air Material Area – which extended from Morocco to bases in Greece, Italy, Turkey, Iran and Pakistan.
48. Dupuy, p.234. The aid provided by the US early after Moroccan independence included M48 main battle tanks, M56 self-propelled anti-tank guns, and M113 armoured personnel carriers (APCs).
49. Stafrace, p.44; Green et al, p.198 & Cooper et al, *Arab MiGs Vol.1*, pp.99-102.
50. Colonel Abdesalam Bouziane, 'Officier du Roi', *colonelbouziane.com*.
51. Brent, p.106; Stafrace, p.44; Green et al, p.198 & Cooper et al, *Arab MiGs Vol.1*, pp.99-102. Despite their withdrawal in 1963, the US Navy was secretly granted permission to maintain a communication centre in Sidi Yahya, about 100 kilometres north-east of Rabat, until the early 1970s. Also of interest is that together with MiG-17s, the Soviets also delivered a battalion-worth of brand-new T-54 main battle tanks – perhaps in an attempt to 'outbid' the French that provided AMX-13 light tanks, and the USA, that provided M75 armoured personnel carriers.
52. Brent, p.106; Stafrace, p.44; Green et al, p.198 & Cooper et al, *Arab MiGs Vol.1*, pp.99-102.
53. Bouziane, Colonel Abdesalam, 'Officier du Roi', *colonelbouziane.com*.
54. Zaunes et al, p.11 & Dupuy, p.230.
55. While there are lots of claims that those who left the ALN and refused to join the ANP were left to their own devices and dissatisfied, most of them were actually rewarded for their service to Algeria: the government subsequently established a ministry responsible for taking care of the veterans, who receiving diverse social incentives and low rents. Indeed, even today their children enjoy significant social advantages.
56. In 1957, Nayrab AB was also the scene of the first-ever attempt to establish a 'pan-Arab squadron', consisting of pilots and ground personnel from Algeria, Egypt, Iraq, Jordan and Syria. Jordanian personnel were withdrawn from this enterprise following a failed coup in April of the same year, but others continued their training in Syria until February 1958, when that country joined Egypt to form the United Arab Republic. Because the Syrian Arab Air Force was thus disbanded and integrated into the resulting United Arab Republic Air Force (the official designation of the Egyptian air force until 1972), all of its training facilities were subsequently closed and moved to Egypt.
57. Except where cited otherwise, most of this sub-chapter is based on interviews with active officers of the QJJ, provided on condition of anonymity over the last 18 years.
58. el-Gahramy, Fikry, interview with Dr David Nicolle, March 2003.
59. *El-Mudjahid* Magazine, 6 Februar 1959 & *el-Djeich* Magazine, Vol.547, p.57, Februar 2009. Said Ait-Messaoudène died on 1 January 2009, at an age of 75. An article published in the Algerian military magazine *el-Djeich*, a month later, cited him as born on 25 July 1933 in Had el-Sahari (Djelfa), and attending school in Blida before attending the French Air Force Academy in Salon de Provence, in 1955, and then joining the FLN, in 1958 (what the article did not mention was that Ait-Messaoudène briefly served as a fighter-pilot with the AdA in West Germany, before defecting to the Algerian insurgency). Furthermore, it cited that Ait-Messaoudène was trained as fighter pilot in China and received a conversion course on MiG-19s and helicopters in the USSR, in 1960, and that – following Algerian independence – he participated in the establishment of the first two units equipped with fighter jets and helicopters. Following his military service, Ait-Messaoudène became General Director of Air Algeria, and subsequently served as Minister of Post and Industries.
60. Mladenov, Aleksandar, (leading Bulgarian military aviation journalist), interview, April 2008.
61. 'Interview with Colonel Hocine Senoussi', *El-Watan Journal*, 10 October 2013.
62. Unless stated otherwise, the following account of the Sand War is based on interviews with S. N. (active officer of the QJJ), April 2001, M. A. (active officer of the CFDAT), June 2004, provided on condition of anonymity, and Glejeses, pp.44-46. Notable is that while the agreement between the FLN and King Mohammed V is fiercely denied by officials in Algiers until the present day, in the words of several Algerian officers, 'everybody knows it is truth'.
63. Curiously, while Senoussi further commented that, once Boumedienne climbed to power he, 'quickly got rid of the last French presence in the country', actually, he never tried to do anything of that kind. On the contrary, while not involved in negotiations for the Treaty of Evian, Boumedienne insisted on respecting this agreement. Thus, it was not due to pressure from him that the French vacated their last bases in Algeria – indeed, officially, they remained in places like Beni Ounif at least until 1978, and unofficially much longer!
64. Bouziane, Colonel Abdesalam 'Officier du Roi', *colonelbouziane.com*.
65. Ibid. According to Bouziane, all five Egyptians were returned to Cairo on board of an ARC C-47, a few weeks later – when Hassan II paid a visit to President Gamal Abdel Nasser. For further details on Mubarak's earlier career, see Nicolle et al, *Wings over Sinai*.
66. CIA, NIS, March 1973; CIA/FOIA/ERR.
67. Samuel, Seguev, *The Moroccan Connection: The Secret Ties Between Israel and Morocco* (in Hebrew), (Matar Books, 2008). In the same book, the author

- revealed that the Moroccans gave the Mossad precious information on the poor condition and state of preparedness of diverse Arab armed forces as revealed during the Arab League meeting in Casablanca, in September 1965, too – which in turn greatly helped Israel to plan its operations for the June 1967 War.
68. While some sources – for example Zunes et al, p.18 – report deliveries of no fewer than 20 F-5As from Jordan and six from Iran in February 1976 – only two such aircraft are definitely confirmed as transferred by Iran to Morocco. Another example was delivered from USAF stocks in 1974, probably as attrition replacement.
 69. Dupuy, p.234.
 70. CIA, *NIS*, March 1973; CIA/FOIA/ERR.
 71. Ibid & Dean.
 72. Cooper et al, *Arab MiGs Vol.4*, pp.212-214 & Bouziane, Colonel Abdesalam, 'Officier du Roi', colonelbouziane.com
 73. CIA, *NIS*, March 1973; CIA/FOIA/ERR.
 74. Ibid.
 75. Amerkrane and Kouera belonged to the so-called 'Spaniards' — the group of FARM pilots trained in Spain. As a result, they were often discriminated against and overlooked for promotion by officers trained in France.
 76. Jean-Jacques Petit, former Boeing 707 pilot with Air France, interview, Paris, June 2009.
 77. Cooper et al, *Arab MiGs Vol.4*, pp.212-214 & CIA, *NIS*, March 1973; CIA/FOIA/ERR.
 78. Details as provided by Major-General Nabil Shuwakry, former MiG-21 pilot and brigade commander of the Egyptian Air Force, interview, November 2010. Details on the Moroccan involvement as provided by a source in Morocco on condition of anonymity, interview, November 2013. According to the latter, the Moroccan F-5As deployed in Egypt had at least an additional 'close call' with Israelis in January 1974, when they were scrambled to intercept a pair of high-flying Dassault Mirage IIIRJs. That mission was aborted early, after Egyptian early warning radars detected additional Israeli interceptors orbiting at low altitude over the Sinai.
 79. CIA, *NIS*, March 1973; CIA/FOIA/ERR.
 80. Najab, Ali, 'Ma guerre contre le POLISARIO's', *Medias24.com*, 22 July 2015. According to Moroccan sources interviewed on condition of anonymity, the F-5A in question remains chained in the corner of the same hangar until today – as a 'reminder' for all the FAR officers who might ever consider the idea of opposing the royals again.
 81. CIA, *NIS*, March 1973; CIA/FOIA/ERR. Notable is that the AMG was also the major supply depot for the air force. As well as including a small armament storage facility and underground storage of about 100 tonnes (26,000 gallons) of fuel, it maintained stocks of up to 28,000 different line items, including aircraft and vehicle spares. Correspondingly, the AMG was scheduling weekly flights of C-119s from Casablanca/Anfa to other air bases for delivery of requested parts.
 82. Brent, p.106. This was actually the second Moroccan attempt to acquire Mirage fighters from France. The first was initiated in 1970, when Rabat requested help from Paris in setting up an integrated air defence system for the whole of Morocco. Correspondingly, a group of FAR pilots was deployed to France, where they ran extensive testing of the Dassault Mirage IIIE. However, lack of funding, followed by the coup and subsequent purge of fighter pilots, quickly killed all related efforts.
 83. Liébert et al, p.225. Notable is that all available French sources stress, that the letter 'H' in the designation of Moroccan Mirage F.1CHs stood for 'Hassan' – after the Moroccan ruler.
 84. Stafrace, pp.44-45. Reports, according to which Mauritania acquired four Aermacchi AL.60Bs from Niger, remain unconfirmed: indeed, there is no confirmation that Niger has ever operated that type. The only country in this part of the World definitely confirmed as having AL.60Bs was the Central African Republic.
 85. Reports about Mauritania purchasing four Hughes MD.500 helicopters in 1978, remain unconfirmed until the present time, several Gazelle helicopters were acquired instead (see Volume 2 for details).
 86. Stafrace, pp.44-45 & Dean, p 37.
 87. Cooper et al, *Arab MiGs Vols.1 & 4*.
 88. The official designation of the QJJ's Academy is 'es-Air', translation of which would mean 'High School'. Correspondingly, it can't really be called an 'Academy' even though it is an institution of this class and type (similarly, the Ground Forces Command has had its own 'High School' at Tafaroui, since 2013, while the Air Defence Command has its own at Reghaia). However, officially, there is only one 'military academy' in all of Algeria: the 'Academy inter-Armées de Cherchell' – which is supervised by the Ground Forces Command.
 89. A. N., online interview, 17 December 2016.
 90. Figures according to 'Document 44', official Egyptian report on the June 1967 War (for details, see Cooper et al, *Arab MiGs Volume 3*, p.203). On the contrary, the Algerians insist they delivered 47 fighters, including 'three squadrons of MiG-17s and one of MiG-21F-13s'.
 91. *Hawker Siddeley Harrier for the Democratic Republic of Algeria*, Volume 1, 20 April 1974 & CIA, *Algeria: Air Force Modernization*, NES 83-10214C, September 1983, CIA/FOIA/ERR.
 92. CIA, *The Conflict in Western Sahara*, June 1977, CIA/FOIA/ERR.
 93. Ibid.
 94. CIA, *The Conflict in Western Sahara*, June 1977, CIA/FOIA/ERR.
 95. Curiously, the EdA never deployed its more powerful variant, the HA-220 Super Saeta, custom-tailored for COIN operations.
 96. Fricker, John, 'Lockheed F-104 Starfighter', *Wings of Fame, Volume 2 & Scutts, Northrop F-5/F-20*, p.35.
 97. During the early 1970s, the EdA's pilots deployed to the Spanish Sahara foremost flew patrols over the endless deserts of this territory. To break the routine schedule, Do.27s often engaged T-6Ds in mock dogfights. A bi-product of such practices was that, should the need arise, pilots of both types thus had a better chance of evading Moroccan T-6s or T-28s. Far less official was another sort of 'exercise' run by T-6D pilots: they sometimes staged races against the Land Rovers of the Foreign Legion on the flat surface of the salt lake near Echderia! For details, see Salvador Mafe Huertas, 'LEjército de Aire perd ses T-6', *Le Fana de l'Aviation*, March 1982.
 98. Another T-6D is known to have crashed during a similar, ultra-low-level combat sortie on 24 April 1974, killing its pilot, Lieutenant Jose Belsue.

About the Authors

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Tom Cooper is an Austrian aerial warfare analyst and historian. Following a career in a worldwide transportation business – during which he established a network of contacts in the Middle East and Africa – he moved into narrow-focus analysis and writing on small, little-known air forces and conflicts, about which he has collected extensive archives. This has resulted in specialisation in such Middle Eastern air forces as those of Egypt, Iran, Iraq and Syria, plus various African and Asian air forces. As well as authoring and co-authoring more than 30 books - including an in-depth analysis of major Arab air forces at wars with Israel during the period 1955-1973 - and over 1,000 articles, Cooper is a regular correspondent for multiple specialised defence-related publications.

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Military historian and aviation journalist, Albert Grandolini, was born in Vietnam and gained an MA in history from Sorbonne University in Paris. His primary research focus is on contemporary conflicts in general and particularly on the military history of Asia and Africa. Having spent his childhood in South Vietnam, the Vietnam War has always been one of his main fields of research. He authored the book *Fall of the Flying Dragon: South Vietnamese Air Force (1973-1975)*, two volumes on Vietnam's Easter Offensive of 1972 for Helion's Asia@War Series, and three volumes on Libyan Air Wars for the Africa@War Series. He has written numerous articles for various British, French, and German magazines.